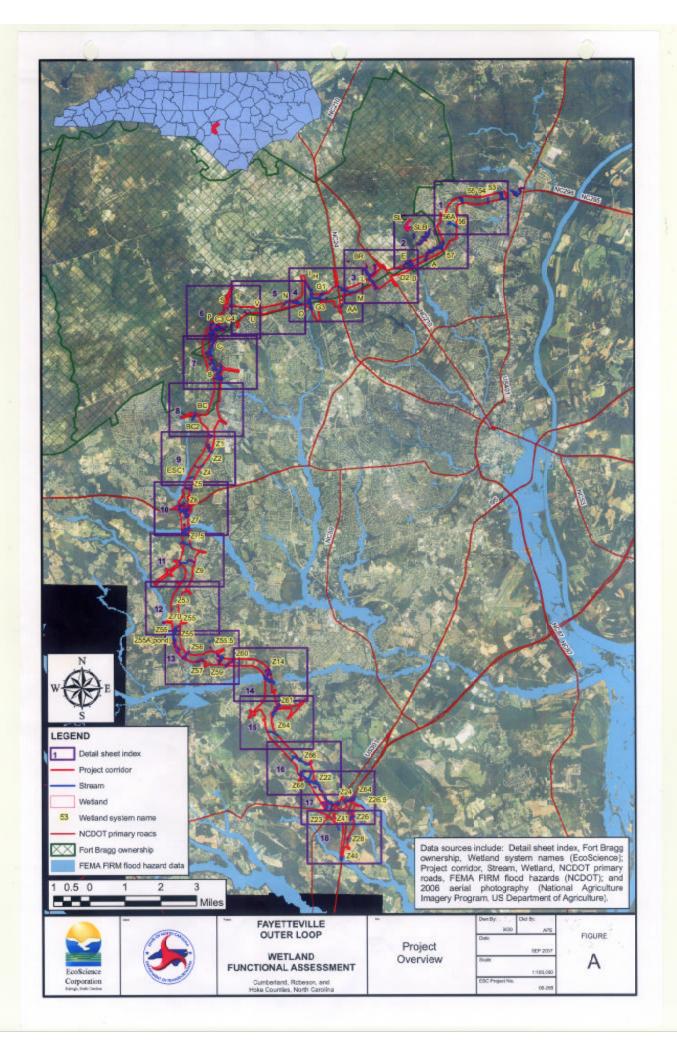
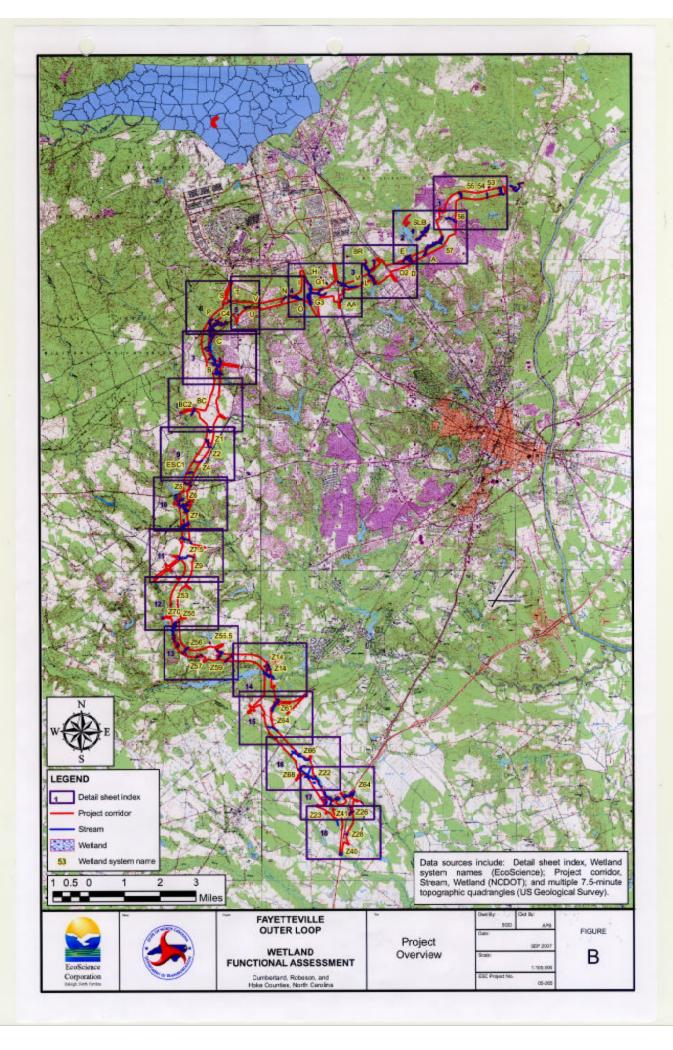
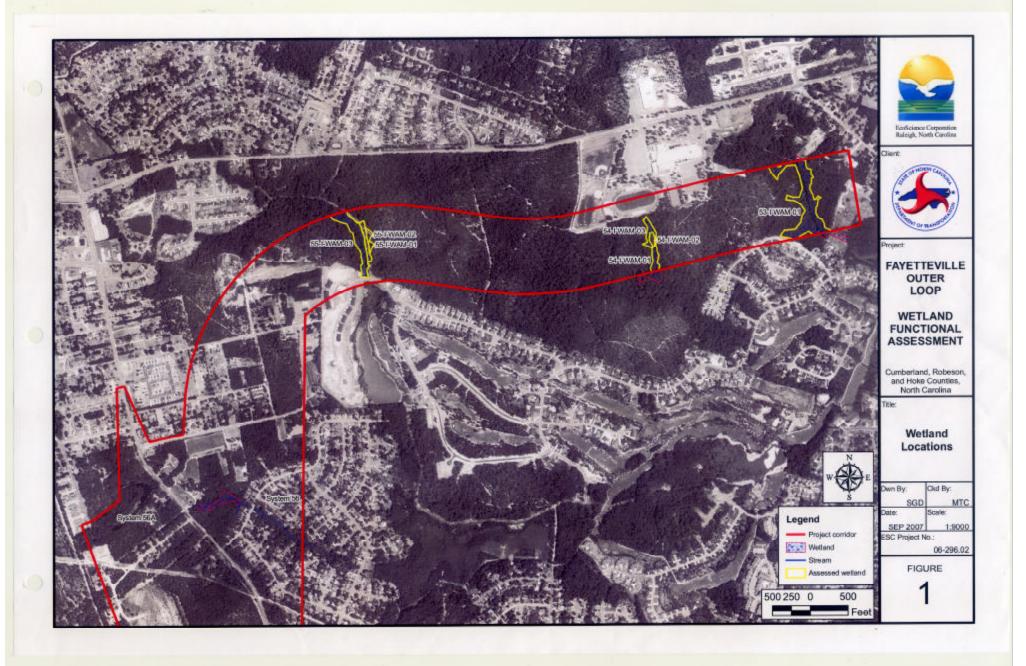
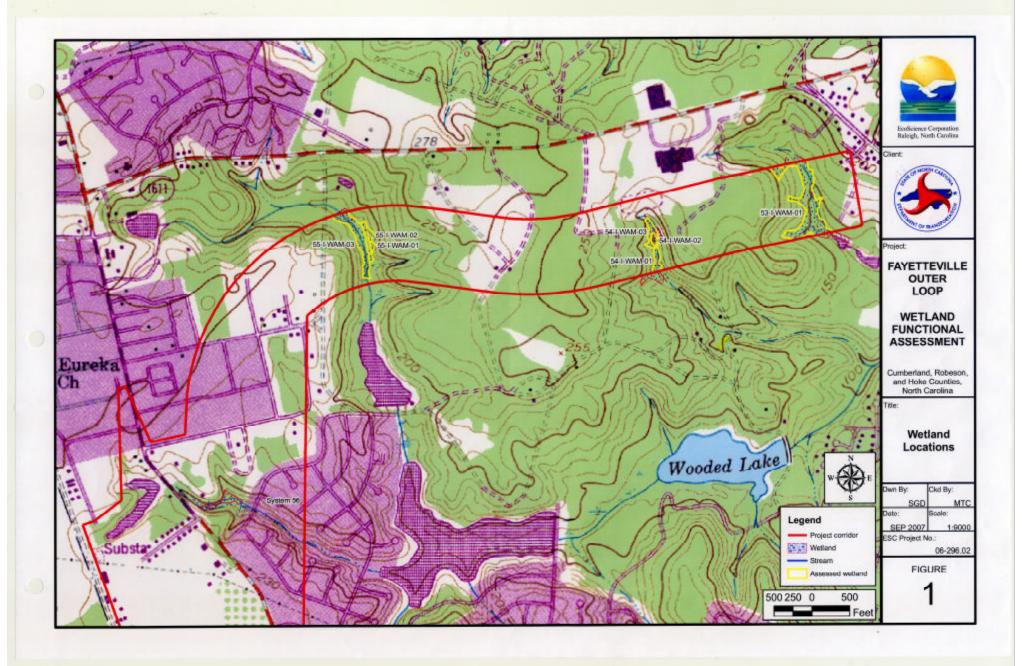
			T						Г	ı				
								Water						
								Quality						
							Water	Sub-	_		_			
		ESC				Hydrology	Quality	Function	Water Quality	Habitat	Overall			
NCDOT	NCDOT	Sheet	ESC System		Assessment	Sub-	Sub-Function	(Modified	(Opportunity	Sub-	Wetland	USACE	NCWAM	Proposed
TIP/Section	Wetland Site	No.	Number	NC WAM Wetland Type	Area Size	Function	(Condition)	Condition)	Presence?)	Function	Quality	type	type	Impact
X-0002C	Site 6	1	53-I-WAM-01	Headwater Wetland	6	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	fill
X-0002C	Site 5	1	54-I-WAM-01	Riverine Swamp Forest	0.61	HIGH	HIGH	HIGH	NO	HIGH	1 HIGH	N	R	fill
X-0002C	Site 5	1	54-I-WAM-02	Non-Tidal Freshwater Marsh	0.23	HIGH	HIGH	X	X	HIGH	1 HIGH	Ν	R	fill
X-0002C	Site 5	1	54-I-WAM-03	Seep	0.69	HIGH	HIGH	Χ	Χ	HIGH	1 HIGH	Ν	Ν	fill
X-0002C	Site 4	1	55-I-WAM-01	Seep	0.36	HIGH	HIGH	Χ	Χ	HIGH	1 HIGH	R	Ν	fill
X-0002C	Site 4	1	55-I-WAM-02	Seep	0.55	LOW	LOW	Χ	Χ	LOW	3 LOW	R	N	bridged
X-0002C	Site 4	1	55-I-WAM-03	Bottomland Hardwood Forest	2.54	HIGH	HIGH	HIGH	YES	LOW	1 HIGH	R	R	bridged
X-0002C	Site 2	2	57-I-WAM-01	Headwater Wetland	8.41	HIGH	MEDIUM	HIGH	YES	HIGH	1 HIGH	N	R	fill
X-0002C	Site 1	2	A-I-WAM-01	Riverine Swamp Forest	3.17	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
X-0002B	Site 3	2,3	D-I-WAM-01	Riverine Swamp Forest	13.17	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	R	R	bridged
X-0002B	Sites 1a-c	3	L-I-WAM-01	Riverine Swamp Forest	6.17	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	bridged
U-2519E	Sites 2, 3	3,4	M-I-WAM-01	Headwater Wetland	4.76	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519E	Site 4	4	G2-I-WAM-01	Headwater Wetland	5.14	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519DA	Site 4	4	G2-I-WAM-02	Headwater Wetland	3.84	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519DA	Site 4	4	G2-I-WAM-03	Riverine Swamp Forest	6.27	MEDIUM	HIGH	HIGH	YES	MEDIUM	1 HIGH	R	R	fill
U-2519DA	Site 5	4	G3-I-WAM-01	Riverine Swamp Forest	7.17	MEDIUM	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519DA	Site 3	4	G3-I-WAM-02	Non-Tidal Freshwater Marsh	4.5	HIGH	HIGH	X	X	HIGH	1 HIGH	R	R	fill
U-2519DA	Sites 1, 2	4,5	O-I-WAM-01	Riverine Swamp Forest	13.01	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	R	R	fill
U-2519DA	? 15+50	5	N-I-WAM-01	Riverine Swamp Forest	1.09	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	N	R	fill
U-2519CB	Site 3	6	T-I-WAM-01	Headwater Wetland	0.21	LOW	MEDIUM	HIGH	YES	MEDIUM	2 MEDIUM	N	R	fill
U-2519CA	Site 6	9	Z1-II-WAM-03	Headwater Wetland	2.09	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	N	R	fill
U-2519CA	Site 5	9	Z2-II-WAM-04	Riverine Swamp Forest	1.75	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	fill
U-2519CA	Site 4	9	Z4-II-WAM-08	Headwater Wetland	0.57	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	fill
U-2519CA	? ~670+50	9	ESC1-II-WAM-05	Headwater Wetland	0.1	LOW	MEDIUM	HIGH	YES	LOW	3 LOW		R	fill
U-2519CA	? ~670+50	9	ESC1-II-WAM-06	Headwater Wetland	0.25	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH		R	fill
U-2519CA	Site 3	10	Z5-II-WAM-09	Headwater Wetland	2.97	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	bridged
U-2519CA	Site 2	10	Z6-II-WAM-20	Bottomland Hardwood Forest	1.07	HIGH	HIGH	HIGH	YES	LOW	1 HIGH	R	R	fill
U-2519CA	Site 2	10	Z6-II-WAM-19	Seep	2.41	HIGH	HIGH	X	Х	HIGH	1 HIGH	R	N	fill
U-2519CA	Site 2	10	Z6-II-WAM-10	Bottomland Hardwood Forest	13.47	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519CA	Site 2	10	Z6-II-WAM-12	Seep	0.48	HIGH	HIGH	X	Х	HIGH	1 HIGH	R	N	fill
U-2519CA	Site 2	10	Z6-II-WAM-13	Headwater Wetland	0.79	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	N	fill

Legend		
High quality wetland		
Medium quality wetland		
Low quality wetland		
USACE and NC WAM riverine vs non-riverine call inconsistent		









Γ	Wetland	Site Name	• 54-I-WAM01	Date	9/6/07
ĺ	We	tland Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA ESC
			Southeastern Plains	Nearest Named Water Body	Falls Creek, Wooded Lake
	F		Cape Fear	USGS 8-Digit Catalogue Unit	03030004
	☐ Ye	s 🛭 No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.151326, -78.887395
	Please circ (for instance	ele and/or no e, within 10 ydrological urface and eptic tanks, igns of veg abitat/plant	nake note below if evidence of stress years). Noteworthy stressors included modifications (examples: ditches, discontinuous sub-surface discharges into the weat underground storage tanks (USTs),	mortality, insect damage, disease, storm owing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
-	All Fe	nat apply to nadromous ederally pro CDWQ ripa retland adja ublicly own C. Division	the assessment area. fish stected species or State endangered arian buffer rule in effect acent to or associated stream drains te ed property of Coastal Management Area of Env	·	
	— What type ⊠ Bl □ Br	of natural ackwater ownwater	ICNHP reference community stream is associated with the wetland check one of the following boxes)	and, if any? (Check all that apply) ☐ Lunar ☐ Wind ☐ Both	
				<u> </u>	
	is the asse	ssment ar	ea on a coastal island? 🔲 Yes	⊠ No	
	Is the asse	ssment are	ea's surface water storage capacit	y or duration substantially altered by be	eaver? 🗌 Yes 🛛 No
1.	Check a	n box in ea essment area hent area ba VS ⊠A ∏B	ea. Compare to reference wetland if ased on evidence of alteration. Not severely altered Severely altered over most of the ass sedimentation, fire-plow lanes, skidd	the ground surface (GS) in the assessme applicable (see User Manual v1.0). If a sessment area (ground surface alteration eler tracks, bedding, fill, soil compaction, sturbance, herbicides, salt intrusion [whe	reference is not applicable, then rate the examples: vehicle tracks, excessive obvious pollutants) (vegetation structure
2.	Surface	and Sub-S	Surface Storage Capacity and Dura	tion – assessment area condition metri	ic
	Check a (Sub). C G) for No water or applicabl Surf □A ⊠B	box in each consider booth Carolir ally, while a e. Sub	ach column. Consider surface storeth increase and decrease in hydroloma hydric soils for the zone of influent ditch > 1 foot deep is expected to water storage capacity and duration and water storage capacity or duration and water storage capacity and duration and water storage capacity or duration and water storage capacity and water storage capacity and water storage capacity or duration and water storage capacity and water storage capacity or duration and water storage capacity o	rage capacity and duration (Surf) and su gy. Refer to the NRCS Scope and Effect ice of ditches in hydric soils. A ditch ≤1 or affect both surface and sub-surface we have not altered.	b-surface storage capacity and duration to Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface rater. Consider tidal flooding regime, if
3.	∏C Water S	(Water storage capacity or duration archange) (examples: intensive ditchindams, stream incision, sewer lines, sofface Relief – assessment area/wet	,	sufficient to result in vegetation sion, man-made berms, beaver
J.				torage for the assessment area (AA) and t	the wetland type (WT).
)	AA □A □C □D	WT □A ⊠B □C □D	> 50% of the wetland type with depre > 50% of the wetland type with depre > 50% of wetland type with depression	essions able to pond water > 2 feet essions able to pond water 1 to 2 feet ons able to pond water 6 inches to 1 foot ons able to pond water 3- to 6-inches deep	
	□E	□E	Depressions asia to pond trator . o .		

4	1. **	Soil Fexture/St	ructure – a	assessment area condition metric
		Select all that	apply. Dig	g soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot.
		National Technic □A Sandy		tee for Hydric Soils regional indicators are noted (use most recent guidance).
		☐B Predor	minantly ch	aracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)
			•	aracterized by other, mineral soil (no mottling) oil (F2, S4)
		⊠E Soil rib	obon < 1 inc	ch
			obon ≥1 ind at or muck	
		☐H A peat	or muck p	resence (A6, A7, A8, A9, A10, F1, S1)
				(histosol or histic epipedon) (A1, A2, A3)
	5.			opportunity metric olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).
		Examples of sub	o-surface d	ischarges include presence of nearby septic tank, underground storage tank (UST), etc.
		Surf Sub ⊠A ⊠A	Little or	no evidence of pollutants or discharges entering the assessment area
		□B □B	Noticea	ble evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
		_c _c	treatme	nt capacity of the assessment area ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and
			potentia	ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
			sedime	·
6	3 .	Land Use - opp		netric Aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area
		within entire ups	stream water	ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles
		and within the w	atershed d	Iraining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal of feet wide in the Mountains.
		WS 5M	2M	
		□A □A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
		□в □в	□В	> 30% impervious surfaces without stormwater BMPs
			□c ⊠d	10 to 30% impervious surfaces < 10% impervious surfaces
		⊠D ⊠D □E □E	□E	Old urban development (pink areas on USGS 7.5-minute quadrangles)
		□F □F □G □G	□F □G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)
			⊟H	≥20% coverage of pasture without riparian buffer
\ /			□J	≥20% coverage of pasture with effective riparian buffer ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer
		□K □K	□K	≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
			□L □M	≥20% coverage of maintained grass/herb Silvicultural land with disturbance < 5 years old
		⊠n ⊠n	⊠N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or
				overbank flow from affecting the assessment area.
7	7.			ated Buffer – assessment area condition metric hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
		⊠Yes	□No	If No, Skip to next metric
				th is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine for a total stream width.
		⊠ ≤15	5-feet wide	> 15-feet wide Not Applicable
		Do roots of asse ⊠Yes		ea vegetation extend into the bank of the adjacent stream/open water?
		Is stream or other	er open wa	ter sheltered or exposed?
		⊠She □Evn	eltered – ad losed – adi	jacent open water with width < 2500 feet <u>and</u> no regular boat traffic. acent open water with width ≥2500 feet <u>or</u> regular boat traffic.
5	8.		=	Width – assessment area/wetland type/wetland complex metric
		Check a box is	n each col	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex
		(WC), and the r	iparian buf	fer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need ide of the water body. The riparian buffer is measured from the outside banks of the outer channels of an
		anastomosed sy	ystem. Ma	ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
		removed or distr		pplicable)
		WI WC	KB (ii a ⊠A	≥100 feet
		□в □в	□в	From 80 to < 100 feet From 50 to < 80 feet
		□C □C	□c □D	From 40 to < 50 feet
			□E □F	From 30 to < 40 feet From 15 to < 30 feet
		□G □G	□G	From 5 to < 15 feet
		□н □н	□н	< 5 feet

	9.	‴ Inunḋ	ation Duration – assessment area condition metric
			r for assessment area dominant landform.
		□в	Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation
2	_ 10	⊠C Indica	Evidence of long-duration inundation (7 to 30 consecutive days or more) ors of Deposition – assessment area condition metric
)"	Consid	er recent deposition only (no plant growth since deposition).
		∏A ⊠B	Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but not overwhelming the wetland.
		□с	Sediment deposition is excessive and is overwhelming the wetland.
	11		d Size – wetland type/wetland complex condition metric
		applica a boun WT. If WT B C D S S S S S S S S S S S S S S S S S S	a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if pole, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms assessment area is clear-cut, select "K" for FW column. WC FW (if applicable) A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres C From 50 to < 50 acres From 10 to < 25 acres From 10 to < 25 acres From 5 to < 10 acres From 1 to < 5 acres From 1 to < 0.5 acre Trom 0.1 to < 0.5 acre From 0.1 to < 0.1 acre
		□K	□K □K < 0.01 acre
	12.	Wetland □A	I Intactness – wetland type condition metric (evaluate for Pocosins only)
		□В	Wetland type is the full extent (≥90%) of its natural landscape size. Wetland type is < 90% of the full extent of its natural landscape size.
	13.	Connec	tivity to Other Natural Areas – landscape condition metric
)	CPP.OPI	appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if ate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and re), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the LC
		⊠a □B	□A ≥500 acres □B From 100 to < 500 acres
		□c □D	☐C From 50 to < 100 acres
		□E	□E < 10 acres
		□F Check Y	Wetland type has a poor or no connection to other natural habitats es or No.
		□Yes ⊠Yes	□No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Is the assessment area subject to overbank flooding during normal conditions?
	14.		ect – wetland type condition metric
			distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight
		□A	No artificial edge within 150 feet in all directions
		⊠B □C	No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions <u>or</u> assessment area is clear-cut
	15.	Vegetati	re Composition – assessment area condition metric (skip for marshes and Pine Flat)
		⊠A	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
		□c	Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	16.		re Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
		□A	Vegetation diversity is high and is composed primarily of native species.
ر . ا			Vegetation diversity is low or has > 10% cover of exotics. Vegetation is dominated by exotic species.

	17:	Vegerative Structure – assessment area/wetland type condition metric	
		∨ Vegetation present	
		Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation	
		☐B < 25% coverage of vegetation	
)	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Considerative structure in airspace above the assessment area (AA) and the wetland type (WT) separately.	ər
,	,	AA WT □A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent	
		 ☑A ☑A Dense mid-story/sapling layer ☐B ☐B Moderate density mid-story/sapling layer ☐C ☐C Mid-story/sapling layer sparse or absent 	
		□A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent	
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent	
		☐ Vegetation absent	
	18.	Snags – wetland type condition metric	
		☑A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).☐B Not A	
	19.	Diameter Class Distribution – wetland type condition metric	
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.	
		 ✓B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ✓C Most canopy trees are < 6-inches DBH or no trees. 	
	20.	Large Woody Debris – wetland type condition metric	
		Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). B Not A	
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)	
	9	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterne areas indicate vegetated areas, while solid white areas indicate open water.	∌d
		□A □B □C □D	
	22.	Habitat Uniqueness – wetland type condition metric	
	□Y	es No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"	
	Note	es	miner
		•	

Wetland Site Name	_54-I-WAM01	Date of Assessment 9/6/07	,
Wetland Type	Riverine Swamp Forest	· · · · · · · · · · · · · · · · · · ·	
		A5, R	A ESC
Presence of str	ressor affecting assessment area (Y/N)	NO	
Notes on Field	Assessment Form (Y/N)	NO	
Presence of reg	gulatory considerations (Y/N)	YES	
Wetland is inter	nsively managed (Y/N)	NO	
Wetland may be	e a high-quality riverine wetland (Y/N)		
Sub-function Rating			
Function	Sub-function		
Hydrology		Metrics	Rating
,	Surface Storage and Retention	Condition	HIGH
Water Quality	Sub-surface Storage and Retention	on Condition	MEDIUM
Turn Quality	Pathogen Change	Condition	MEDIUM
		Condition/Opportunity	MEDIUM
	5	Opportunity Presence (Y/N)	NO
	Particulate Change	Condition	MEDIUM
		Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	NO
	Soluble Change	Condition	MEDIUM
		Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	NO
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	NO
	Pollution Change	Condition	X
		Condition/Opportunity	X
11-64-4		Opportunity Presence (Y/N)	X
Habitat	Physical Structure	Condition	MEDIUM
	Landscape Patch Structure	Condition	MEDIUM
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
Function Rating Summ	narv		
Function	•	Metrics	
Hydrology		Condition	Rating
Water Quality		Condition	HIGH
			HIGH
		Condition/Opportunity	HIGH
-labitat		Opportunity Presence (Y/N)	NO
		Condition	HIGH
Overall Wetland Ra	iting HIGH		

Is the assessment area's surface water storage capacity or duration substantially altered by beares. 1. Ground Surface Condition/Vegetation Condition — assessment area condition metric Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicated assessment area based on evidence of alteration. GS VS A A Not severely altered over most of the assessment area (ground surface alteration examples: vehicle tracks, bedding, fill, soil compaction, obvious pollutants) sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exoless diversity [if appropriate], artificial hydrologic alteration) 2. Surface and Sub-Surface Storage Capacity and Duration — assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refe	
Wetland Type	
Level III Ecoregion Southeastern Plains: USGS 8-Digit Catalogue Unit (20300004 30300004 30300004 Yes No Precipitation within 48 hrs? Latitude/Longitude (deci-degrees) 35.152096, 78.879500 35.152096, 78.879	
River Basin Cappe Feat Salt Cappe Feat Salt	
Evidence of stressors affecting the assessment area (may not be within the assessment area) Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or marke note below if evidence of stressors is apparent. Consider departure from reference, if appropriate professors in the professor is appropriate professor (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. Hydrological modifications (examples: diches, dams, beaver dams, dicks, berms, ponds, etc.) Surface assurface discharges into the welland (examples discharges containing obvious pollutants, pressent) is septic tanks, underground storage tanks (USTs), hog lagoons, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, escipic tanks, underground storage tanks (USTs), hog lagoons, etc.) Is the assessment area intensively managed?	·
Signs of vegetation stress (examples: mowing, clear-cutting, exotics, etc.) Is the assessment area intensively managed?	sence of nearby
Describe effects of stressors that are present. Sawer lien right of way adjacent to wetland	
Regulatory Considerations Select all that apply to the assessment area. Anadromous fish Federally protected species or State endangered or threatened species NCDWQ riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Tr. N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Tr. Biackwater Brownwater Tidal (if tidal, check one of the following boxes) Is the assessment area on a coastal island?	200000000000000000000000000000000000000
Select all that apply to the assessment area. Anadromous fish	
What type of natural stream is associated with the wetland, if any? (Clieck an other opposition) Blackwater	'rout
Blackwater Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both	
Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both	
Is the assessment area on a coastal island?	
Is the assessment area on a coastal island?	
1. Ground Surface Condition/Vegetation Condition — assessment area condition metric Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetati the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable assessment area based on evidence of alteration. GS VS Not severely altered B Severely altered over most of the assessment area (ground surface alteration examples: vehicle transped in the sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) and alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exomic alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exomic alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exomic less diversity [if appropriate], artificial hydrologic alteration) 2. Surface and Sub-Surface Storage Capacity and Duration — assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage of (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS scope and Effect Guide (see User M (Sub). Guide hydrology is a substantially (typically), not sufficient to charting the propos	571 No
 Ground Surface Condition/Vegetation Condition – assessment area condition in the assessment area and vegetation. Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable assessment area based on evidence of alteration.	⊠ No
 Ground Surface Condition/Vegetation Condition – assessment area condition in the assessment area and vegetation. Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable assessment area based on evidence of alteration.	
sedimentation, life-plow landscape alteration alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], statificial hydrologic alteration) 2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage of (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Mostle). A ditch ≤1 foot deep is consider of ditches in hydric soils. A ditch ≤1 foot deep is consider water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tide applicable. Surf Sub A A Water storage capacity and duration are not altered. Water storage capacity or duration are altered, but not substantially (typically, not sufficient to charm water storage capacity or duration are substantially altered (typically, alteration sufficient to result water storage capacity and duration are substantially altered (typically, nan-made before).	
Check a box in each column. Consider surface and sub-surface and Effect Guide (see Consider (Sub)). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see Consider (Sub)). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see Consider to the NRCS	
Check a box in each column. Consider surface and sub-surface and Effect Guide (see Consider (Sub)). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see Consider (Sub)). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see Consider to the NRCS	capacity and durati
C C Water storage capacity of the distribution of the control of t	dal flooding regime
dams, stream incision, sewer lines, our days	ome, es
 Water Storage/Surface Relief – assessment area/wetland type condition metric Water Storage/Surface Relief – assessment area/wetland type (\text{VEC}) (A) and the wetland type (A) a	WT).
Check a box in each column. Soloson and the column ship to pond water > 2 feet	
Check a box in each column. Solution of the wetland type with depressions able to pond water > 2 feet AA WT A > 50% of the wetland type with depressions able to pond water 1 to 2 feet B B > 50% of the wetland type with depressions able to pond water 6 inches to 1 foot C C C > 50% of wetland type with depressions able to pond water 3- to 6-inches deep D D D D D D D D D D D D D D D D D D D	

£	-	,		****	tui a		
•	4.	Soil Texture/S Select all that	tructure – asse t apply. Dig so	ssment area condition me I profile in the dominant as	sessment area landscape feature. cators are noted (use most recent g	Make soil observations within the top uidance).	foot.
		National Technology Sand	ly soil	terized by mottled (redoxym	norphic features), mineral soil (F6, F	8, F12, TF10, S5, S6)	
(☐C Pred☐D Gley	ominantly chara ed mineral soil (' ribbon < 1 inch	Refized by Other, Thirter-			
		☐G No F	ribbon ≥1 inch beat or muck pre eat or muck pres		71, S1)		
		Cl Pea	t or muck soll (ni	S(OSO) Of there obibegain (
	5.	Discharge in Check a box	siin-sullace uisc	largoo more r		sub-surface pollutants or discharges rage tank (UST), etc.	(Sub).
		Surf Sub □A ⊠A	Little or no	evidence of pollutants or di	scharges entering the assessment a scharges entering the wetland and s	stressing, but not overwhelming the	
		□C □C	treatment Noticeable potentially	evidence of pollutants or di overwhelming the treatmen		soluble) entering the assessment area coloration, dead vegetation, excessive	and
			sedimenta	tion)	• •		ant area
	6.	within entire	upstream water	ining to the assessment are	a GIS effort with field adjustment. (and within the watershed draining to a (2M). Effective riparian buffers an	Consider sources draining to assessme the assessment area (5M), and within re considered to be 50 feet wide in the	2 miles Coastal
		Plain and Pi	edmont and 30 f	eet wide in the Mountains.		Practices (BMPs) (land use examples:	
		WS 5M □A □		> 30% impervious surfaces industrial, commercial, and > 30% impervious surfaces		Practices (BMPs) (land use examples:	
		⊠B ⊠ □c ⊑	B ⊠B JC □C	10 to 30% impervious suria	Ces		
			lo □D	< 10% impervious surfaces	nk areas on USGS 7.5-minute quadr	rangles)	
]E □E	Old urban development (pill New adjacent development	in areas on our	o of pollutants)	
	_	무등 누]F □F]G □G	- c l i l oporations	In one local concernation	e of politicanie)	
		Hi E]н □н	>20% coverage of pasture	Williout riparian buffor		
				≥20% coverage of agricult	with effective riparian burier ural land (regularly plowed land) wit ural land (regularly plowed land) wit land grass/herh	th effective riparian buffer	
		∐K L	jk □K	≥20% coverage of agricult	ned grass/herb		
]L □L]M □M	Silvicultural land with distu	rbance < 5 years old	ydrologic modifications that prevent dra	inage or
		M	JN □N	Little or no opportunity. La overbank flow from affection	ng the assessment area.	-	
			Manat			mode ditches or cana	ıls)
		7. Wetland A	cting as veget	hin 50 feet of a stream or ot	ner open water? ("open water" does	not include man-made ditches or cana	,
1			∐Yes ∐N∪	th is normal flow width [ord	linary high water to ordinary high v	water]). If the stream is anastomosed	, combine
		widths of o	channeis/braids ⊠ ≤15-feet wide of assessment ar	Ui a total on our]Not Applicable e bank of the adjacent stream/open		
		is stream		ater sheltered or exposed?	b < 2500 feet and no regular boat tr	,	
			TExposed - ad	jacent open water with wear		-tula	
		8. Wetland/	Riparian Buffer	Width - assessment area	wetland type/wetland complex made width for the wetland type at t	etric the assessment area (WT), the wetlar fer width is measured from top of bank to the outside banks of the outer char	d complex
1		Check a	box in each co	olumn. Select the appropr	(RR) (if applicable). Riparian buff	fer width is measured from top of barn	nnels of an
		only be	present on one	side of the water body. The	ne riparian butter is measured from on dominant landscape feature.	fer width is measured from top of schar n the outside banks of the outer char Record a note if a portion of the buffe	r nas been
į		anastom	osed system. W	lake buffer judgment based	Off domination		
		removed WT	or disturbed. WC RB (if	applicable)			
		⊠A	$\boxtimes A$ $\boxtimes A$	≥100 feet From 80 to < 100 feet			
1		□в		From 50 to < 80 feet			
	_			From 40 to < 50 feet From 30 to < 40 feet			
1			DE DE	From 15 to < 30 feet			
1	<i>z</i>	F □G	□F □F □G □G	From 5 to < 15 feet			
1		H H	H DH	< 5 feet			

			nun
	9.	Inundation	iration – assessment area condition metric
			· · · · · · · · · · · · · · · · · · ·
		⊠A E\	ence of short-duration in including of injurdation
			ence of saturation, without evidence of munication and the saturation, without evidence of munication and the saturation in undation (7 to 30 consecutive days or more)
		□C E	ence of long-duration matric
	10.	Indicators	Deposition – assessment area condition metric
)	Consider re	int deposition only (no plant growth since deposition). Iment deposition is not excessive, but at approximately natural levels. Iment deposition is not excessive, but not everywhelming the wetland.
		⊠A S	ment deposition is not exceed but not even helming the wetland.
		□B S	iment deposition is excessive, but not overwhelming the wetland. iment deposition is excessive and is overwhelming the wetland.
			e – wetland type/wetland complex condition metric This metric evaluates three aspects of the wetland area: the
	11.		
		Check a b	in each column. Involves a close discourse wetland complex (WC), and the size of the contiguous, forested method type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested method type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested method forms below the size of the contiguous, forested method type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested method forms below the size of the contiguous, forested method for method type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested method for
		size of the	be User Manual). Boundaries are formed by uplands, four-lane roads, of urbar randocepes
		a houndar	etland type (WT), the size of the commed by uplands, four-lane roads, or urban landscapes. All observed boards per uplands, four-lane roads, or urban landscapes. All observed boards per uplands, four-lane roads, or urban landscapes. All observed boards per uplands for column it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column.
		WT. If ass	sment area is clear-cut, soloci it is in
		WT \	; FW (if applicable)
			☐R From 100 to < 500 acres
			From 50 to < 100 acres
			From 25 to < 50 acres
		⊟E Ì	E DE From 10 to <25 acres
			F and to 4 5 corps
			☐ ☐ From 0.5 to < 1 acre
			From 0.1 to < 0.5 acre
		j'	J □J From 0.01 to < 0.1 acre
			K □K < 0.01 acre
	12	Wetland	actness – wetland type condition metric (evaluate for Pocosins only)
	•		
		Пв	etland type is < 90% of the full extent of its heterory
	4		ty to Other Natural Areas – landscape condition metric ty to Other Natural Areas – landscape condition metric tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water and tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if tropriate box(es). This metric refers to the landscape patch (if tropriate box (es).) The patch of the landscape patch (if tropriate box (es).) The patch of tropriate box (es) are tropriate box (es) are tropriate box (es).
		appropria	that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained licids (LC) to the that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained licids (LC) to the that includes the wetland type is well-connected (WC) or loosely-connected (LC) to the or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the
1		agricultu	, or open water > 300 feet water
(、ノ	landscap	patch.
		WC	C]A ≥500 acres
		⊠A ∏B	From 100 to < 500 acres
		⊟c	From 50 to < 100 acres
		□D	□D From 10 to < 50 acres
			☐E < 10 acres ☐F Wetland type has a poor or no connection to other natural habitats
		□F	Wetland type has a poor of the confined to the water to the wetlands? (evaluate for marshes only)
		Check `	s or No. No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)
		∐Yes □Vos	□ No Does wetland type have a surface hydrology connection to open mal conditions? □ No Is the assessment area subject to overbank flooding during normal conditions?
		□Yes	
		14. Edge E	ct – wetland type condition metric itistance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, development, development features such as fields, development, development, development features such as fields, development, development features features such as fields, development, development features featur
		Estimat	distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as holds, such as licities, such as holds, such as
		main no	
		□A	No artificial edge within 150 feet in an directions
		⊠B	No artificial edge within 150 feet in four to seven directions No artificial edge within 150 feet in four to seven directions or assessment area is clear-cut An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
		□c	
		15. Vegeta	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate of the condition in species present area.
		□A	Vegetation is close to reference conduitor in species process and area.
			species, with exoit prints absent or opening in species diversity or proportions, but still largery competence condition in species diversity or proportions, but still largery develop after clearcutting or
		⊠B	vegetation is different from reference condition in species diversity or proportions, but still largely composed of hatch vegetation is different from reference condition in species diversity or proportions, but still largely composed of hatch vegetation of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type.
			characteristic of the wetland type. This may include communities of weedy native species that develop the characteristic of the wetland type. This may include communities of weedy native species that develop the characteristic of the wetland type. This may include communities of weedy native species that develop the expected strata. Clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Expected strata are unnaturally absent or dominated by exotic vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic vegetation severely altered from reference in composition.
		ПС	Vegetation, severely, altered from references as the energies or inappropriately composed of a single opening
		□c	Clearing. It also includes continuities with oxion. Expected strata are unnaturally absent of dominated by Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated by Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated by Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated by Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated by Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated by Vegetation severely altered from reference in composition.
			andition matric levaluate for the
		16. Vege	Vegetation diversity is high and is composed primarily of native species. Vegetation diversity is high and is composed primarily of native species.
1		► □A	Vegetation diversity is low or has > 10% cover of exotics.
	() <u>B</u>	Vegetation is dominated by exotic species. Vegetation is dominated by exotic species.
1	-		A BROCKERS

1 -		.e 	etative Structure – assessment area/wetland type condition metric	
	17	. veg ⊠	Vegetation present Evaluate percent coverage of vegetation for marshes only	
			Evaluate percent coverage of vegetation □A ≥25% coverage of vegetation □ A ⇒25% coverage of vegetation	onsider
			□A ≥25% coverage of vegetation □B < 25% coverage of vegetation □B coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. C	
()		-tturn in airenace above the assessment and the	
	/		A A Canopy closed, or nearly closed, with reducting specific and the Canopy present, but opened more than natural gaps	
			TC TC Canopy sparse of absent	
			□A □A Dense mid-story/sapling layer □B ☑B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent	
			□A □A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent	
			□A □A Dense herb layer □B ☑B Moderate density herb layer □C □C Herb layer sparse or absent	
			Vegetation absent nags – wetland type condition metric 12-inches DBH, or large relative to species present and landscape stability).
			A Large snags (more than one) are present (* 12 merse) B Not A	
			plameter Class Distribution – wetland type condition metric Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are	
			present.	
			C Most canopy trees are < 6-inches ben of his trees.	
		20.	_arge Woody Debris – wetland type condition metric _arge Woody Debris – wetland type condition metric	ability).
			arge Woody Debris – wettand type of the standard process of the standard proc	t- ambil
		١	B Not A Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Mars) Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Mars)	Patterned
()21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Year Power Vegetation). Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season.	
			areas indicate vegetated areas, wille solid IIIB	
		22.	Habitat Uniqueness – wetland type condition metric Yes No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (U	WL)?"
		□	Yes No Has the N.C. Environmental Management Communication of the National Communication of the	**************************************
		No	ACK	
Ì		140		
1	ı			
	1			
	١	\		
		1		

		Date of Assessment 9/6/07	
tland Site Name	53-I-NCWAM01	ssessor Name/Organization AS, RA / E	coScience
tland Type	Headwater Wetland As		
	0//81	YES	
Presence of st	ressor affecting assessment area (Y/N)	NO	
Notes on Field	Assessment Form (Y/N)	NO	
Presence of re	egulatory considerations (Y/N)	NO	
Wetland is into	ensively managed (Y/N)		
Wetland may	be a high-quality riverine wetland (Y/N)		
b-function Ratir	ng Summary	Metrics	Rating
inction	Sub-function	Condition	HIGH
/drology	Surface Storage and Retention		HIGH
	Sub-surface Storage and Reten	Condition	LOW
ater Quality	Pathogen Change	Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	YES
		Condition	HIGH
	Particulate Change	Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
		Condition	HIGH
	Soluble Change	Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
		Condition	HIGH
	Physical Change	Condition/Opportunity Opportunity Presence (Y/N) Condition Condition/Opportunity Opportunity Presence (Y/N)	HIGH
	Pollution Change		YES
			X
			X
			X
		Condition	HIGH
Habitat	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	MEDIUM
	Vegetation Composition	Condition	NO
	Uniqueness	Condition	
Function Rating	s Summary	NA Library	Rating
Function		Metrics	HIGH
Hydrology		Condition	HIGH
Water Quality		Condition Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
		Condition	HIGH
Habitat		Condition	
, 100.12.1			

	wetland Site		54-I-WAM02	Date	9/6/07			
	Wetland		Non-Tidal Freshwater Marsh	Assessor Name/Organization	AS, RA, EcoScience			
	Level III Eco		Southeastern Plains	Nearest Named Water Body	Falls Creek, Wooded Lake			
	· —	Basin		USGS 8-Digit Catalogue Unit	03030004			
. ,	☐ Yes	⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.151839, -78.887505			
	Evidence of str	ressors	affecting the assessment area (may not be within the assessment area				
	Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in rec (for instance, within 10 years). Noteworthy stressors include but are not limited to be a second control of the second contro							
	(for instance, wi	thin 10 y	ears). Noteworthy stressors inclu	de, but are not limited to the following.	reference, if appropriate, in recent past			
	i i nyuror	iogicai m	oullications (examples: ditches d	lams heaver dame dikos horma nondo -	ito)			
	l Sullac	Outlace and sub-surface discrigines into the Weiland (examples: discharges containing above and the containing						
	• Signs	 Signs of vegetation stress (examples: vegetation mortality insect damage, disease, etcr., damage, etcr., and an example in the control of the c						
	• Habita	t/plant co	ommunity alteration (examples: m	nowing, clear-cutting, exotics, etc.)	aumago, can miradion, cic.)			
ļ	is the assessing	eni area	intensively managed? 🛛 Ye	es 🗌 No				
	Describe effects	s of stre	ssors that are present.					
	Long standing, n	nan mad	e dam source of hydrology, near :	School property				
	0 3, 1		o dam oddiod of ffydrology, ffear s	school property				
İ	COMMON NAMES AND ADMINISTRATION OF A STATE OF THE PARTY O	*********************						
ĺ	Regulatory Con	siderati	ons					
	Select all that ap	ply to the	e assessment area.					
		mous fis	h					
ļ	Anadro Federa NCDW	ily proted	cted species or State endangered	or threatened species				
	NCDW	Q riparia	n buffer rule in effect					
	Wetland	d adjace	nt to or associated stream drains	to a Primary Nursery Area				
	☐ Wetland Publicly N.C. Di	owned	property					
	N.C. Di	vision of	Coastal Management Area of En	vironmental Concern (AEC) (including buffe	er)			
	N.C. Di	10 110161V	Water Quality best usage classificated with the second community.	cation of SA or supplemental classifications	of HQW, ORW, or Trout			
- 1		3100 1101	The reference community					
	What type of nat	tural str	eam is associated with the wetl	and, if any? (Check all that apply)				
	Blackwa	ater		, (, , , , , , , , , , , , , , , , , ,				
	Brownw							
	☐ Tidal (if	tidal, ch	eck one of the following boxes)	☐ Lunar ☐ Wind ☐ Both				
1	Is the assessme	nt area	on a coastal island?	⊠ No				
								
	Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No							
1.	1. Ground Surface Condition/Vegetation Condition – assessment area condition metric							
	Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if anglights (see US) in the assessment area.							
	the assessmen	nt area	Compare to reference wetland if	the ground surface (GS) in the assessmer	nt area and vegetation structure (VS) in			
			d on evidence of alteration.	applicable (see User Manual v1.0). If a re	eference is not applicable, then rate the			
	GS VS		a on evidence of alteration.					
	⊠a ⊠a	Not	severely altered					
	□в □в	Sev	erely altered over most of the ass	essment area (ground surface alteration ex	remembers with the first			
		004	incination, incipiow lattes, skilling	el liacks begoing till soil compaction of	byious pollutopto) (t-t'			
			and oxampics. Inechanical dis	RUIDANCE, NEMOCINES SAIT INTRIBION IMPAR	appropriatel exetic enseine			
		less	diversity [if appropriate], artificial	hydrologic alteration)	s appropriately, exolic species, grazing,			
2.	Surface and S							
	Chack a how	in ooob	and otorage capacity and bura	tion – assessment area condition metric				
	(Sub) Conside	or both i	occorded domains in budgets	age capacity and duration (Surf) and sub-	-surface storage capacity and duration			
	applicable.	ine a an	on > 1 foot deep is expected to	affect both surface and sub-surface wat	ter. Consider tidal flooding regime, if			
	Surf Sub							
	⊠a ⊠a	Wat	er storage capacity and duration a	ire not altered				
	□в □в	Wat	er storage capacity or duration are	e altered, but not substantially (typically, not	t oufficient to about a			
	□c	***	si storage capacity of dufation are	SUDSTABILATIV ALTERED (Typically alteration of	ufficient to an authority			
		onai	igo) (cyambica: intensive attentit	I, IIII. Sealmentation channelization diversi	on man-made herms, hower			
		dam	s, stream incision, sewer lines, so	il compaction).	on, mair-made perms, peaver			
3.	Water Storage		Relief – assessment area/wetl					
٠.								
	Oneck a box if	n each c	olumn. Select the appropriate st	oragé for the assessment area (AA) and the	e wetland type (WT).			
`	aa wt ⊠a ⊠a	\ E0	% of the wetland type with dance	orione oble to post water a C.C.				
)	□B □B			sions able to pond water > 2 feet				
				sions able to pond water 1 to 2 feet				
				ns able to pond water 6 inches to 1 foot				
	□D □D			ns able to pond water 3- to 6-inches deep				
		Dep	ressions able to pond water < 3-ir	iches deep				

4.	SoîÎ Texture/Structure – assessment area condition metric
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot.
	National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). ⊠A Sandy soil
	□B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) □C Predominantly characterized by other, mineral soil (no mottling)
	☐D Gleyed mineral soil (F2, S4)
	□F. Soil ribbon ≥1 inch
	□G No peat or muck presence □H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)
	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)
5.	Discharge into Wetland – opportunity metric Check a box in each column. Consider ourfees collumns of the control of the contr
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.
	Surf Sub ☑A Little or no evidence of pollutants or discharges entering the assessment area
	B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area
	C Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and
	potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)
6.	Land Use – opportunity metric
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles
	and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.
	WS 5M 2M
	industrial, commercial, and high-density residential)
	□B □B > 30% impervious surfaces without stormwater BMPs □C □C □C 10 to 30% impervious surfaces
	☑D ☑D < 10% impervious surfaces ☑E ☑E ☑E Old urban development (pink areas on USGS 7.5-minute quadrangles)
	☐F ☐F New adjacent development
	☐H ☐H ≥20% coverage of pasture without riparian buffer
()	□I □I ≥20% coverage of pasture with effective riparian buffer □J □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer
	□K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer □L □L ≥20% coverage of maintained grass/herb
	☐M ☐M Silvicultural land with disturbance < 5 years old
	☑N ☑N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) ⊠Yes □No If No, Skip to next metric
	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine widths of channels/braids for a total stream width.
	⊠ ≤15-feet wide □> 15-feet wide □Not Applicable
	Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water? ⊠Yes □No
	Is stream or other open water sheltered or exposed? ☐Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic.
_	☐Exposed – adjacent open water with width ≥2500 feet or regular boat traffic.
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex
	(WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need
	only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	removed or disturbed. WT WC RB (if applicable)
	□A □A ⊠A ≥100 feet □B □B □B From 80 to < 100 feet
	☑C ☑C ☐C From 50 to < 80 feet
	□D □D From 40 to < 50 feet □E □E From 30 to < 40 feet
` /	☐F ☐F From 15 to < 30 feet ☐G ☐G From 5 to < 15 feet
	□H □H <5 feet

!	9.	Inundation Duration – assessment area condition metric
		Answer for assessment area dominant landform. A Evidence of short-duration inundation (< 7 consecutive days) B Evidence of saturation, without evidence of inundation
		Evidence of long-duration inundation (7 to 30 consecutive days or more)
	10.	Indicators of Deposition – assessment area condition metric
		Consider recent deposition only (no plant growth since deposition). Sediment deposition is not excessive, but at approximately natural levels. Bediment deposition is excessive, but not overwhelming the wetland. Cediment deposition is excessive and is overwhelming the wetland.
1	1.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column. WT WC FW (if applicable) A A ≥500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F From 10 to < 25 acres F From 5 to < 10 acres G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre I I From 0.1 to < 0.5 acre
		□K □K < 0.01 acre
12	2.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
		□A Wetland type is the full extent (≥90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size.
13	. !	Connectivity to Other Natural Areas – landscape condition metric
		Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and andscape patch. WC LC MA
	_	□F Wetland type has a poor or no connection to other natural habitats Check Yes or No.
		Yes \square No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Yes \square No Is the assessment area subject to overbank flooding during normal conditions?
14.	Е	dge Effect – wetland type condition metric
	m	stimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, vo-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight no artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	٧	egetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		JA Vegetation is close to reference condition in species present and their proportions. Leaves to the second terms of the seco
		B Vegetation is different from reference condition in species discretives personalized by the state of the st
		clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unpaturally observed expected strata.
16	v.	species of inappropriately composed of a single species.
10.	V(egetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only) A Vegetation diversity is high and is composed primarily of native species
)		A Vegetation diversity is high and is composed primarily of native species. B Vegetation diversity is low or has > 10% cover of exotics. C Vegetation is dominated by exotic species.

	17.	Vegetative Structure – assessment area/wetland type condition metric					
		∨ Vegetation present ✓ Vegetation					
		Evaluate percent coverage of vegetation for marshes only ⊠A ≥25% coverage of vegetation					
		□R < 25% coverage of vegetation					
)	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.					
\	,	AA WT □A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent					
		□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent					
		□A □A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent					
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent					
	40	Snags – wetland type condition metric					
	10.	Shags – wedard type condition metric □ A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). □ B Not A					
	19.	Diameter Class Distribution – wetland type condition metric					
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.					
		Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. □C Most canopy trees are < 6-inches DBH or no trees.					
	20.	Large Woody Debris – wetland type condition metric					
		Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). B Not A					
	21.	Vegetation/Open Water Dispersion wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)					
()	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.					
		Habitat Uniqueness – wetland type condition metric ✓es ⊠No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"					
		es ⊠No Has the N.C. Environmental Management Commission classified the assessment area as Onique Wellands (OWL)?					
	Not						
	Inui	ndated during drought					

Wetland Site Name	54INCWAM02	Date of Assessment	9/6/07	
Wetland Type	Non-Tidal Freshwater Marsh	Assessor Name/Organization	AS, RA, EcoScience	
Presence of str	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	YES		
	e a high-quality riverine wetland (Y/N)			
	· ·			
Sub-function Rating Function				
	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	X	
\\\/\\\\\	Sub-surface Storage and Retent		X	
Water Quality	Pathogen Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Particulate Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Soluble Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Physical Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence ((Y/N) X	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence (Y/N) X	
Habitat	Physical Structure	Condition		
	Landscape Patch Structure	Condition	MEDIUM	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
Function Rating Sum	nmary			
unction		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence (
-labitat		Condition	HIGH	

	Wetland Sit		54-I-WAM03	Date	9/6/07
	Wetla	nd Type		Assessor Name/Organization	AS, RA, EcoScience
	Level III Ec	_		Nearest Named Water Body	Falls Creek, Wooded Lake
	Rive	er Basin		USGS 8-Digit Catalogue Unit	03030004
-)	☐ Yes	⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.152268, -78.887746
. /	Please circle a (for instance, v • Hydr • Surfa septi • Signs • Habii	and/or ma within 10 ological ace and c tanks, s of vege tat/plant	ake note below if evidence of stressing years). Noteworthy stressors includ modifications (examples: ditches, dasub-surface discharges into the we underground storage tanks (USTs), I tation stress (examples: vegetation community alteration (examples: moderation).	mortality, insect damage, disease, storm obving, clear-cutting, exotics, etc.)	otc.) obvious pollutants, presence of nearby
	15 1116 4556551	mem are	a intensively managed?	s 🗵 No	
	Describe effect Adjacent to sci		ressors that are present. ball field	autopada akullinda hiir yarrak eskada sakuda lakula akun akun 15 kulli yari balayin di sakuli di sakuli di sak	
	Anad	apply to a longular to the lon	the assessment area. fish sected species or State endangered or rian buffer rule in effect cent to or associated stream drains to d property of Coastal Management Area of Env	·	
			•		
			tream is associated with the wetla	and, if any? (Check all that apply)	
		water			
_		nwater	check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both	
		•	<u> </u>	_	
. /	is the assessr	ment are	a on a coastal island?	⊠ No	
	Is the assessr	nent are	a's surface water storage capacity	y or duration substantially altered by be	eaver? 🗌 Yes 🛛 No
	Check a be the assessing assessment GS V:	ox in ea ment are t area ba S JA 1 B 5	 a. Compare to reference wetland if used on evidence of alteration. Not severely altered Severely altered over most of the asset edimentation, fire-plow lanes, skido 	the ground surface (GS) in the assessme applicable (see User Manual v1.0). If a sessment area (ground surface alteration eler tracks, bedding, fill, soil compaction, sturbance, herbicides, salt intrusion [whe	examples: vehicle tracks, excessive obvious pollutants) (vegetation structure
	2. Surface an			ition – assessment area condition metr	ic
	Check a b (Sub). Cor G) for North water only, applicable. Surf Si A B C	ox in eansider book on Carolin while a lub [A \ A \ A \ A \ A \ A \ A \ A \ A \ A	th column. Consider surface storth increase and decrease in hydrolo a hydric soils for the zone of influent ditch > 1 foot deep is expected to a vater storage capacity and duration at a vater storage capacity or duration are vater storage capacity or duration are thange) (examples: intensive ditchindams, stream incision, sewer lines, s	rage capacity and duration (Surf) and su gy. Refer to the NRCS Scope and Effect ice of ditches in hydric soils. A ditch ≤1 or affect both surface and sub-surface ware not altered. The altered, but not substantially (typically, resubstantially altered (typically, alteration g, fill, sedimentation, channelization, diversiol compaction).	b-surface storage capacity and duration to Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface vater. Consider tidal flooding regime, if not sufficient to change vegetation).
	3. Water Stor	rage/Sur	face Relief – assessment area/wet	land type condition metric	
	Check a be	ox in ea	ch column. Select the appropriate s	storage for the assessment area (AA) and	the wetland type (WT).
	AA W	VT]A]B]C	> 50% of the wetland type with depre	essions able to pond water > 2 feet essions able to pond water 1 to 2 feet ons able to pond water 6 inches to 1 foot ons able to pond water 3- to 6-inches dee	

⁵4.	Soft Tex	kture/Str	ucture –	assessment area condition metric
		l Technic Sandy s	al Comm soil	ig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ittee for Hydric Soils regional indicators are noted (use most recent guidance). haracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)
	□c □D	Predom Gleyed	ninantly c mineral s	haracterized by other, mineral soil (no mottling) soil (F2, S4)
	⊠E □F	Soil ribb	oon < 1 ir oon ≥1 ir	ach ach
	∏G ⊠H			presence presence (A6, A7, A8, A9, A10, F1, S1)
		Peat or	muck so	il (histosol or histic epipedon) (A1, A2, A3)
5.		_		- opportunity metric
	Example Surf	es of sub- Sub	surface o	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). discharges include presence of nearby septic tank, underground storage tank (UST), etc.
	⊠a □B	⊠A □B	Noticea	r no evidence of pollutants or discharges entering the assessment area able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ent capacity of the assessment area
	□с	□c	Noticea potentia	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive ntation)
6.	Land Us		•	
	within er and with Plain and	ntire upst in the wa d Piedmo	ream wat itershed o ont and 30	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal of feet wide in the Mountains.
	WS □A	5M □A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
	□B □C	□в □c	□в □c	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces
	⊠D	⊠D	\boxtimes D	< 10% impervious surfaces
	□E □F	□E □F	□E □F	Old urban development (pink areas on USGS 7.5-minute quadrangles) New adjacent development
	□G □H	□G □H	□G □H	Confined animal operations (or other local, concentrated source of pollutants) ≥20% coverage of pasture without riparian buffer
				≥20% coverage of pasture with effective riparian buffer
	□k □J	□k □l	□k □J	≥20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
	□K □L			≥20% coverage of maintained grass/herb
	□M ⊠N	□M ⊠N	⊠N ⊠N	Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
7.	Wetland	Acting a	as Veget	ated Buffer – assessment area condition metric
	Is the as:	sessmen Yes	t area wit ⊠No	hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric
		width (Str	ream wid s/braids f	th is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine or a total stream width.
	Do roots	of asses	feet wide sment ar □No	> 15-feet wide
	Is stream	or other ∐Shelte	open wa ered – ad	ter sheltered or exposed? jacent open water with width < 2500 feet <u>and</u> no regular boat traffic. acent open water with width ≥2500 feet <u>or</u> regular boat traffic.
8.	Wetland	/Ripariar	n Buffer '	Width – assessment area/wetland type/wetland complex metric
	(WC), ar	nd the rip present o osed sys	arian buf on one s tem. Ma	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex fer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need ide of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ike buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	WT	WC		pplicable)
	□A □B	∏A ⊠B	□A □B	≥100 feet From 80 to < 100 feet
	□c	□c	□с	From 50 to < 80 feet
	□D ⊠E		□D □E	From 40 to < 50 feet From 30 to < 40 feet
` /	□F	□F	□F	From 15 to < 30 feet
	□G □H	□G □H	□G □H	From 5 to < 15 feet < 5 feet

	' 9.	Ini t ndatio	on Duration – assessment area condition metric				
	•		or assessment area dominant landform.				
			Evidence of short-duration inundation (< 7 consecutive days)				
			Evidence of saturation, without evidence of inundation Evidence of long-duration inundation (7 to 30 consecutive days or more)				
	10						
) '0.	Indicators of Deposition – assessment area condition metric Consider recent deposition only (no plant growth since deposition).					
()	,		Sediment deposition is not excessive, but at approximately natural levels.				
			Sediment deposition is excessive, but not overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland.				
	44		·				
	11.		Size – wetland type/wetland complex condition metric box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the				
		size of the	e wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if				
			e, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms ry if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column				
		WT. If as	sessment area is clear-cut, select "K" for FW column.				
			WC FW (if applicable) □A □A ≥500 acres				
		□В	□B □B From 100 to < 500 acres				
			□C □C From 50 to < 100 acres □D □D From 25 to < 50 acres				
		ΠE	□E □E From 10 to < 25 acres				
			⊠F				
		□H	□H □H From 0.5 to < 1 acre				
			□I □I From 0.1 to < 0.5 acre □J □J From 0.01 to < 0.1 acre				
			□K □K < 0.01 acre				
	12.	Wetland I	ntactness – wetland type condition metric (evaluate for Pocosins only)				
			Wetland type is the full extent (≥90%) of its natural landscape size.				
	40		Wetland type is < 90% of the full extent of its natural landscape size.				
	13.		vity to Other Natural Areas – landscape condition metric propriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if				
	1	appropriat	e) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and e), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the				
		WC I	<u>_C</u>				
			A ≥500 acres B From 100 to < 500 acres				
		□c	C From 50 to < 100 acres				
			□D From 10 to < 50 acres □E < 10 acres				
			F Wetland type has a poor or no connection to other natural habitats				
		Check Ye					
			□No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) □No Is the assessment area subject to overbank flooding during normal conditions?				
	14.	Edge Effe	ct – wetland type condition metric				
			distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,				
			or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight as of the compass.				
		⊠A 1	No artificial edge within 150 feet in all directions				
			No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions <u>or</u> assessment area is clear-cut				
			e Composition – assessment area condition metric (skip for marshes and Pine Flat)				
			/egetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate				
			species, with exotic plants absent or sparse within the assessment area.				
			Regetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or				
			clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.				
		□c \	Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.				
	16		e Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)				
		ΠĀ '	Vegetation diversity is high and is composed primarily of native species.				
)	□B '	√egetation diversity is low or has > 10% cover of exotics.				
		$\Box c$ '	Vegetation is dominated by exotic species.				

	* 17.	Vegetative Structure – assessment area/wetland type condition metric
		Evaluate percent coverage of vegetation for marshes only
		☐A ≥25% coverage of vegetation ☐B < 25% coverage of vegetation
		Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
)	structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
		 □A
		□A Dense mid-story/sapling layer □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
		☑A ☑A Dense shrub layer☐B ☐B Moderate density shrub layer☐C ☐C Shrub layer sparse or absent
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent
	18.	Snags – wetland type condition metric
		□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A
	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
		present. Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.
		☐C Most canopy trees are < 6-inches DBH or no trees.
	20.	Large Woody Debris – wetland type condition metric
	20.	Include both man-made and natural debris piles.
_		□A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). Not A
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
		Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.
		□ A □ B □ C □ D
	22	Habitat Uniqueness – wetland type condition metric
	 □Y	
	_	
	Note	98

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Welland Oile Name	J4114CVVAIVIO2	Date of Assessment 9/6/	9/6/07	
Wetland Type	Non-Tidal Freshwater Marsh	Assessor Name/Organization AS,	RA, EcoScience	
	essor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	YES		
Wetland may be	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	Summary			
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	X	
	Sub-surface Storage and Retent	tion Condition	X	
Water Quality	Pathogen Change	Condition	Х	
		Condition/Opportunity	X	
		Opportunity Presence (Y/N)	X	
	Particulate Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence (Y/N)	X	
	Soluble Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence (Y/N)	X	
	Physical Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence (Y/N)	X	
	Pollution Change	Condition	X	
		Condition/Opportunity	×	
		Opportunity Presence (Y/N)	X	
Habitat	Physical Structure	Condition		
	Landscape Patch Structure	Condition	MEDIUM	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
Function Rating Sum	ımary			
Function		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence (Y/N)	X	
Habitat		Condition	HIGH	
Overell Wetlers I	204:			

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	Wetland Site Name		55-I-WAM01		
	Wetlan	d Type	Seep	Date	9/6/07
	Level III Eco	region	October Figure	sor Name/Organization rest Named Water Body	AS, RA, EcoScience
	River	Basin	_oape real	8 8-Digit Catalogue Unit	Wooded Lake
	Yes	⊠ No	Precipitation within 48 hrs? Latitude/Lo	ongitude (deci-degrees)	03030004
	Evidence of str	rassare		mgitude (deci-degrees)	35.151569, -78.899939
	(for instance, win	thin 10 y logical me and si tanks, ur of vegeta t/plant coent area	affecting the assessment area (may not be with e note below if evidence of stressors is apparent. ears). Noteworthy stressors include, but are not lir adifications (examples: ditches, dams, beaver dant b-surface discharges into the wetland (examples derground storage tanks (USTs), hog lagoons, etclion stress (examples: vegetation mortality, insect mmunity alteration (examples: mowing, clear-cuttintensively managed? Yes No ssors that are present.	consider departure from mited to the following. ms, dikes, berms, ponds, es: discharges containing oc.)	reference, if appropriate, in recent past tc.)
1	Select all that app	ply to the	assessment area		The second secon
		mous fisl	·		
	Federal	ly protec	ed species or State endangered or threatened spe	ecies	
	Wetland				
	☐ Publicly		t to or associated stream drains to a Primary Nurs		
		ision of	Coastal Management Area of Facility	ern (AEC) (including buffer	a .
İ	N.C. Div	ision of	Vater Quality best usage classification of SA or su HP reference community	polemental classifications	of HOW ODW
					or naw, or rout
Ì	What type of nati	ural stre	am is associated with the wetland, if any? (Che	ck all that anniv	
			, , . (enc	ok an that apply)	
		ater lidal cho	ok one of the full of the		
			ck one of the following boxes) $\ \ \square$ Lunar $\ \ \square$ V	Wind ☐ Both	
			n a coastal island? ☐ Yes ☒ No		
	ls the assessmen	nt area's	surface water storage capacity or duration sub		
	0 10 1		or distance capacity of duration sub	stantially altered by bear	ver? Yes No
1.	Ground Surfac	ce Cond	tion/Vegetation Condition – assessment area c	condition metric	
	the assessment are		olumn. Consider alteration to the ground surfaction compare to reference wetland if applicable (see U on evidence of alteration.		area and vegetation structure (VS) in erence is not applicable, then rate the
	⊠a ⊠a	Not s	everely altered		
	□в □в	Seve	ely altered over most of the associament area (ound surface alteration ava	molecular de la contraction de
2.	Surface and Co	altera less o	tion examples: mechanical disturbance, herbicic iversity [if appropriate], artificial hydrologic alteratic	des, salt intrusion [where	rriples: Venicle tracks, excessive vious pollutants) (vegetation structure appropriate], exotic species, grazing,
۲.	Charles to	ib-Surra	e Storage Capacity and Duration – assessmen	nt area condition metric	
	(Sub). Consider G) for North Car	r both ind rolina hv	olumn. Consider surface storage capacity and rease and decrease in hydrology. Refer to the N tric soils for the zone of influence of ditches in hy > 1 foot deep is expected to affect both surface.	duration (Surf) and sub-s IRCS Scope and Effect Go	JIQE (See User Manual v1 0 Appondix
	⊠a ⊠a □b □b	vvaler	storage capacity and duration are not altered. storage capacity or duration are altered, but not su storage capacity or duration are substantially alter	ubstantially (typically, not s	sufficient to change vegetation).
,	□c □c	chang dams,	 e) (examples: intensive ditching, fill, sedimentation stream incision, sewer lines, soil compaction). 	n, channelization, diversion	fficient to result in vegetation n, man-made berms, beaver
3.	□C □C Water Storage/S	chang dams, Surface I	e) (examples: intensive ditching, fill, sedimentation stream incision, sewer lines, soil compaction). Relief – assessment area/wetland type condition	n, channelization, diversion	ncient to result in vegetation n, man-made berms, beaver
3.	□C □C Water Storage/S	chang dams, Surface I	e) (examples: intensive ditching, fill, sedimentation stream incision, sewer lines, soil compaction). Relief – assessment area/wetland type condition	n, channelization, diversion	ncient to result in vegetation n, man-made berms, beaver
3.	Water Storage/S Check a box in c	chang dams, Surface I each col	e) (examples: intensive ditching, fill, sedimentation stream incision, sewer lines, soil compaction). Relief – assessment area/wetland type condition. Lumn. Select the appropriate storage for the assessment.	n, channelization, diversion n metric ssment area (AA) and the v	ncient to result in vegetation n, man-made berms, beaver
3.	Water Storage/S Check a box in a AA WT A	chang dams, Surface I each col > 50%	e) (examples: intensive ditching, fill, sedimentation stream incision, sewer lines, soil compaction). Relief – assessment area/wetland type conditionumn. Select the appropriate storage for the assess of the wetland type with depressions able to pend	n, channelization, diversion n metric ssment area (AA) and the v	ncient to result in vegetation n, man-made berms, beaver
3.	Water Storage/S Check a box in a AA WT A A A B B B C C C	chang dams, Surface I each col > 50% > 50%	e) (examples: intensive ditching, fill, sedimentation stream incision, sewer lines, soil compaction). Relief – assessment area/wetland type conditionumn. Select the appropriate storage for the assess of the wetland type with depressions able to pond of the wetland type with depressions able to pond of the wetland type with depressions able to pond	n, channelization, diversion n metric ssment area (AA) and the v water > 2 feet	ncient to result in vegetation n, man-made berms, beaver
3.	Water Storage/S Check a box in a AA WT AA AB BBBBB	chang dams, Surface I each col > 50% > 50% > 50% > 50%	e) (examples: intensive ditching, fill, sedimentation stream incision, sewer lines, soil compaction). Relief – assessment area/wetland type conditionumn. Select the appropriate storage for the assess of the wetland type with depressions able to pend	n, channelization, diversion n metric ssment area (AA) and the v water > 2 feet water > 1 to 2 feet	ncient to result in vegetation n, man-made berms, beaver

4	1. Soil Yextur	e/Structure	- assessment area condition metric
	Select all t National Ted ⊠A Sa	hat apply. chnical Com indy soil	Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. mittee for Hydric Soils regional indicators are noted (use most recent guidance).
\bigcirc	D GI	eyed minera il ribbon < 1 il ribbon ≥1 peat or mu	characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) characterized by other, mineral soil (no mottling) il soil (F2, S4) inch inch ck presence c presence (A6, A7, A8, A9, A10, F1, S1)
	∐і Ре	at or muck s	coil (histosol or histic epipedon) (A1, A2, A3)
5			d – opportunity metric
		sub-surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). e discharges include presence of nearby septic tank, underground storage tank (UST), etc.
	Surf Sul ⊠A ⊠/ ∐B ∐E	A Little 3 Notic	or no evidence of pollutants or discharges entering the assessment area eable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the nent capacity of the assessment area
	_c _c	C Notice poten	eable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and tially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive nentation)
6.			
	and within the	watershed dmont and 3 2M	valuation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area atershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal 30 feet wide in the Mountains.
	□в ⊠в	⊠в	 > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential) > 30% impervious surfaces without stormwater BMPs
		: □c	10 to 30% impervious surfaces < 10% impervious surfaces
		ΠE	Old urban development (pink areas on USGS 7.5-minute quadrangles)
	□G □G	□G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)
		□H □I	≥20% coverage of pasture without riparian buffer ≥20% coverage of pasture with effective riparian buffer
	□k □k	□k □l	≥20% coverage of agricultural land (regularly plowed land) without riparian buffer
			≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥20% coverage of maintained grass/herb
	□M □M	□M □N	Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overhank flow from affecting the processment as
			eversalik new from affecting the assessment area.
7.	Wetland Actin	ng as Veget	tated Buffer – assessment area condition metric
	TY C	es ⊠No	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric
	widths of chan	(Stream wid nels/braids	Ith is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine for a total stream width.
	<u></u> ≤'	15-feet wide	☐> 15-feet wide ☐Not Applicable ea vegetation extend into the bank of the adjacent stream/open water?
		:5 NO	ster sheltered or exposed?
	∐Sh	eltered – ac	liacent open water with width < 2500 feet and no regular boot troffic
8.		poseu – auj	acent open water with width ≥2500 feet <u>or</u> regular boat traffic.
0.	Check a box	ian Buffer in each co	Width – assessment area/wetland type/wetland complex metric
	only be preser	nt on one s system. Ma	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex fer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need de of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ke buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	WT WC	RB (if a	pplicable)
	□A ⊠A □B	□A □B	≥100 feet From 80 to < 100 feet
		□c	From 50 to < 80 feet
)	□E □E	□D □E	From 40 to < 50 feet From 30 to < 40 feet
	⊠F □F □G □G	□F □G	From 15 to < 30 feet From 5 to < 15 feet
	H H	⊟H	< 5 feet

	9.	Inundation Duration – assessment area condition metric						
		Answer for assessment area dominant landform. □ A Evidence of short-duration inundation (< 7 consecutive days) □ B Evidence of saturation, without evidence of inundation □ C Evidence of long-duration inundation (7 to 30 consecutive days or more)						
\wedge 1	0.	Indicators of Deposition – assessment area condition metric						
		Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels. B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland.						
1	1.	Wetland Size – wetland type/wetland complex condition metric						
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A ≥500 acres B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F From 10 to < 25 acres F F From 5 to < 10 acres G G G G From 1 to < 5 acres H H H H From 0.5 to < 1 acre II From 0.1 to < 0.5 acre						
		JJ From 0.01 to < 0.1 acre						
4.		□K □K < 0.01 acre						
12	٤.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only) A Wetland type is the full extent (>90%) of its natural languages size.						
		☐B Wetland type is < 90% of the full extent of its natural landscape size.						
13		Connectivity to Other Natural Areas – landscape condition metric						
\bigcirc	; ! ! ! ! !	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and landscape patch. WC LC A A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres C C From 10 to < 50 acres						
	_	Check Yes or No.						
	_	_Yes □No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) □Yes ☑No Is the assessment area subject to overbank flooding during normal conditions?						
14.		Edge Effect – wetland type condition metric						
		nate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, ane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight points of the compass. No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut						
15.	٧	egetative Composition – assessment area condition metric (skip for marshes and Pine Flat)						
	Σ	Vegetation is close to reference condition in species present and their proportions. Lower strate command of a						
		species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.						
16.	٧	egetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)						
		Vegetation diversity is high and is composed primarily of native species. Vegetation diversity is low or has > 10% cover of exotics. Vegetation is dominated by exotic species.						

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1	17. Vegetative Structure – assessment area/wetland type condition metric	
	to regetation present	
	Evaluate percent coverage of vegetation for marshes only □A ≥25% coverage of vegetation	
	B < 25% Coverage of vegetation	
	Check a box in each column for each stratum. Further the	
	structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT	side
	 ☑A ☑B ☐B ☐C 	
	□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent	
	 ☑A ☑B ☐B ☐C ☐C ☐C ☐D 	
	□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent	
18	□ Vegetation absent 8. Snags – wetland type condition metric	
	A Large snags (more than one) are present (s. 40 in the party).	
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).	
19.	D. Diameter Class Distribution – wetland type condition metric	
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are	
	Most canopy trees have stems between 6- and 12 inches DDL (
20	The first of money part of the flees.	
	 Large Woody Debris - wetland type condition metric Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). 	
21	Vegetation/Ones Nation Process present and landscape stability).	
() - 1.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Pattern	ed
22	Habitat III.	
□Ye	Habitat Uniqueness – wetland type condition metric	
	es 🖾 No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"	
Notes		

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Wetland Site Name	_55-I-WAM01	Dota of A	
Wetland Type	Seep	Date of Assessment	9/6/07
		ssessor Name/Organization	AS, RA, EcoScience
Presence of str	essor affecting assessment area (Y/N)	NO	
Notes on Field /	Assessment Form (Y/N)	NO	
Presence of reg	ulatory considerations (Y/N)	NO	
Wetland is inten	sively managed (Y/N)	NO	
Wetland may be	a high-quality riverine wetland (Y/N)		
Sub-function Rating	-		
Function	Sub-function		
Hydrology	Surface Storage and Retention	Metrics	Rating
	Sub-surface Storage and Retention	Condition	Х
Water Quality	Sub-surface Storage and Retention Pathogen Change		X
	- salegon Change	Condition	Х
		Condition/Opportunity	X
	Dortion Int. O.	Opportunity Presence (Y	/N) X
	Particulate Change	Condition	X
		Condition/Opportunity	X
	Soluble Ob	Opportunity Presence (Y	(N) X
	Soluble Change	Condition	X
		Condition/Opportunity	X
	Dhusis 1 or	Opportunity Presence (Y/	N) X
	Physical Change	Condition	x
		Condition/Opportunity	X
	D	Opportunity Presence (Y/I	N)
	Pollution Change	Condition	, <u> </u>
		Condition/Opportunity	<u>X</u>
abitat		Opportunity Presence (Y/N	I) X
asiai	Physical Structure	Condition	
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	MEDIUM
	Uniqueness	Condition	HIGH
ınction Rating Summa	ry		NO
inction		Motrice	
drology		Metrics	Rating
ater Quality		Condition	HIGH
		Condition	HIGH
		Condition/Opportunity	X
bitat		Opportunity Presence (Y/N)	X
erall Wetland Rati		Condition	HIGH

	Wetla	and Site N	Vame	55-I-WAM02		
	Love	Wetland	Туре	Seep	Date _ Assessor Name/Organization	9/6/07 ESC (AS DA)
_	Leve	IIII Ecore River B	egion Basin	Southeastern Plains Cape Fear	Nearest Named Water Body	ESC (AS, RA) Wooded Lake
			No	Precipitation within 48 hrs?	USGS 8-Digit Catalogue Unit	03030004
` /	Evidend				Latitude/Longitude (deci-degrees)	-48.900080, 35.151560
	Is the as	Ance, within Hydrolog Surface septic tall Signs of Habitat/p	in 10 ye gical mo and su nks, un vegeta olant co nt area	pars). Noteworthy stressors included diffications (examples: ditches, dob-surface discharges into the wedgerground storage tanks (USTs), ion stress (examples: vegetation mmunity alteration (examples: methods).	mortality, insect damage, disease, storm dowing, clear-cutting, exotics, etc.) No	c.)
	Clear-cut	t and mow	ed sew	erline corridor. Foul odor sugges	t possible discharge.	
	Select all	Anadromo Federally NCDWQ I Wetland a Publicly ov N.C. Divis N.C. Divis Designate	y to the ous fish protect riparian adjacen wned prion of Video NCN	assessment area. ed species or State endangered of buffer rule in effect it to or associated stream drains to roperty Coastal Management Area of Envivater Quality best usage classificated in the preference community	o a Primary Nursery Area ronmental Concern (AEC) (including buffer ation of SA or supplemental classifications of) of HQW, ORW, or Trout
	s the ass	Brownwate Fidal (if tida essment a	er lal, ched area o i	ck one of the following boxes) [a coastal island?	nd, if any? (Check all that apply) Lunar	
	s the ass	essment a	area's	surface water storage capacity	or duration substantially altered by beav	/er? ☐ Yes ☒ No
1.	Ground Check	d Surface a box in	each carea. Carea. Carea. Carea. Carea. Carea. Carea. Carea. Not sa Sever sedimaltera	ction/Vegetation Condition – assolumn. Consider alteration to the compare to reference wetland if a con evidence of alteration. Exercise altered ely altered over most of the assestant fire-plow langer skidden entation.	essment area condition metric e ground surface (GS) in the assessment pplicable (see User Manual v1.0). If a refe	area and vegetation structure (VS) in erence is not applicable, then rate the mples: vehicle tracks, excessive
2.	Surface	and Sub-	-Surfac	e Storage Capacity and Duration	on – assessment area condition metric	Ç 3,
	(Sub). (G) for N	Consider booth Carol hly, while le. Sub A B B C C C C C C C C C C C C C C C C C	ooth incommendation water water change	rease and decrease in hydrology rease and decrease in hydrology ric soils for the zone of influence > 1 foot deep is expected to a storage capacity and duration are a storage capacity or duration are a storage capacity or duration are set) (examples: intensive difching the storage capacity or duration are set)	e capacity and duration (Surf) and sub-su. Refer to the NRCS Scope and Effect Gu of ditches in hydric soils. A ditch ≤1 foot affect both surface and sub-surface water not altered. Itered, but not substantially (typically, not substantially altered (typically, alteration suffill sedimentation above.)	dee (see User Manual v1.0 Appendix deep is considered to affect surface Consider tidal flooding regime, if
			dams,	stream incision, sewer lines, soil of	compaction).	, man-made berms, beaver
3.	Water St	torage/Su	rface F	kelief – assessment area/wetlan	d type condition metric	
	Check a	box in ea	ich col	umn. Select the appropriate stora	age for the assessment area (AA) and the w	vetland type (WT)
	AA □B □C ☑D □E	□A □B □C ⊠D	> 50% > 50% > 50% > 50%	of the wetland type with depression of the wetland type with depression of wetland type with depressions	ons able to pond water > 2 feet ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot able to pond water 3- to 6-inches deep	21 - 1 - 1 - 1

٦.	son rexture/ourdcture — assessment area condition metric								
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil								
\bigcirc	Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4) Soil ribbon < 1 inch								
` '	☐F Soil ribbon ≥1 inch								
	No peat or muck presence								
	☐H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1) ☐I Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)								
5.	Discharge into Wetland – opportunity metric								
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sulf)	b)							
	examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.	υj.							
	☐A ☑A Little or no evidence of pollutants or discharges entering the assessment area ☐B ☐B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area								
	Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)								
6.	and Use – opportunity metric								
	theck all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment are rithin entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coast lain and Piedmont and 30 feet wide in the Mountains.	20							
	A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential) B □B □B > 30% impervious surfaces without stormwater BMPs								
	C □C □C 10 to 30% impervious surfaces								
	□ □ □ □ □ < 10% impervious surfaces								
]E □E □E Old urban development (pink areas on USGS 7.5-minute quadrangles)]F □F □F New adjacent development								
	G ☐G Confined animal operations (or other local, concentrated source of pollutants)								
	JH ∐H ∐H ≥20% coverage of pasture without riparian buffer								
	I □I ≥20% coverage of pasture with effective riparian buffer J □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer								
	IK □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer								
	JL ∐L ≥20% coverage of maintained grass/herb								
	M								
	overbank flow from affecting the assessment area.	F							
7.	etland Acting as Vegetated Buffer – assessment area condition metric								
	the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)								
	☐Yes ☐No If No, Skip to next metric ream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combin								
	oths of channels/braids for a total stream width.	æ							
	∐ ≤15-feet wide								
	∐Yes ∐No								
	stream or other open water sheltered or exposed? ☐Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. ☐Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.								
8.	etland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric								
	neck a box in each column. Select the appropriate width for the wetland type at the assessment area (WT) the wetland comple	ex.							
	ly be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of a astomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been	d							
	moved or disturbed. T WC RB (if applicable)								
	A □A □A ≥100 feet								
	B B B From 80 to < 100 feet								
	C								
	D								
. /	F From 15 to < 30 feet								
	G ☐G From 5 to < 15 feet								
]H								

	9.	Inunda	n Duration – assessment area condition metric								
		Answel ⊠A ∏B ∏C	r assessment area dominant landform. Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation Evidence of long-duration inundation (7 to 30 consecutive days or more)								
	10.	Indicat	Indicators of Deposition – assessment area condition metric								
()		ecent deposition only (no plant growth since deposition). Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but not overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland.								
	11.	Wetlan	ize – wetland type/wetland complex condition metric								
		Check size of applical a bound	ox in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond form if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column essment area is clear-cut, select "K" for FW column. VC FW (if applicable) A	(if							
	12		tactness – wetland type condition metric (evaluate for Pocosins only)								
		□A □B	/etland type is the full extent (≥90%) of its natural landscape size. /etland type is < 90% of the full extent of its natural landscape size.								
	13.	Connec	ty to Other Natural Areas – landscape condition metric								
\bigcirc)	appropri	ropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water () that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture an or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the control of the wetland type is well-connected (WC) or loosely-connected (LC) to the control of the co	d							
			D From 10 to < 50 acres								
		□E	E < 10 acres								
		□F	Wetland type has a poor or no connection to other natural habitats								
		Check Y ☐Yes									
		∐Yes	No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Is the assessment area subject to overbank flooding during normal conditions?								
	14.	Edge Eff	t – wetland type condition metric								
Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, der two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider main points of the compass. ☐ A No artificial edge within 150 feet in all directions ☐ B No artificial edge within 150 feet in four to seven directions ☐ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut											
	15.	Vegetati	Composition – assessment area condition metric (skip for marshes and Pine Flat)								
		□A	getation is close to reference condition in species present and their proportions. Lower strata composed of appropriate								
		□в ⊠с	ecies, with exotic plants absent or sparse within the assessment area. getation is different from reference condition in species diversity or proportions, but still largely composed of native species aracteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting of aring. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. getation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic	r							
	4.0	Marcal C	ecies or composed of planted stands of non-characteristic species or inappropriately composed of a single species.								
	16.	-	Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only) getation diversity is high and is composed primarily of native species.								
\bigcup		□A □B □C	getation diversity is high and is composed primarily of harive species. getation diversity is low or has > 10% cover of exotics. getation is dominated by exotic species.								

	17.	Vegetativ	e Structur	e – assessme	ent area/wetland	type co	ndition n	natric						
		∟ vege	tation pres	sent				ieuic						
		□A	ate perce ≥25%	nt coverage of v	of vegetation for	marshe	s only							
		□в	< 25%	coverage of v	egetation									
	\bigcirc	Struc AA	k a box ii ture in airs WT	n each colun space above	nn for each stra the assessment	atum. I area (A	Evaluate A) and th	this portice wetland t	on of t	the met VT) sepa	ric for n arately.	on-marsi	wetland	s. Conside
Į		□А □В ⊠С	□A □B ⊠C	Canopy clo Canopy pre	sed, or nearly closesent, but opened arse or absent	sed with	natural /	ianc accad				ses		
		□A □B ⊠C	□A □B ⊠C	Dense mid- Moderate d	story/sapling layer ensity mid-story/sa apling layer sparse	anling la	yer ent							
		□A □B ⊠C	□A □B ⊠C	Dense shrui Moderate de										
		□A ⊠B □C	□A ⊠B □C ition abse	Herb laver s	layer ensity herb layer parse or absent									
	18													
				condition m (more than on	etric e) are present (>	12-inche	e DRH 7	or large relai	4: 4					
								or large rela	tive to	species	present a	nd landso	ape stabil	ity).
	19. [□A Mo	lass Distri	bution – wetl	and type condition	on metr	ic							
		pre	sent.	irees have ste	ems > 6-inches in	diamete	r at breas	t height (DE	BH); m	any larg	e trees (>	12-inche	s DBH) are	Э
		⊒B Mo ⊠C Mo	st canopy st canopy:	trees have ste trees are < 6-i	ems between 6- ar nches DBH or no	nd 12-ind trees	ches DBF	l, few are >	12-inc	h DBH.				
	20. L	.arge Wood	ly Debris -	wetland type	e condition metri	ic								
	įį.	nclude both	man-made	and natural c	lehris niles									
4					are present (> 12									
()21. V	egetation/(pen Wate	r Dispersion	- wetland type/o	pen wa	ter condi	tion metric	c (eval	uate for	Non-Tid	al Frachu	ator Mara	ah amba
	aı	elect the fig reas indicati	ure that be vegetated	est describes d areas, while	the amount of int solid white areas	erspersi	on betwe	en vegetati	ion and	d open v	ater in t	ne growin	g season.	Patterned
			□A		□B	maicate		.er. ⊒C			□D			
						(i								
	20 11										- 130			
	22. Ha □Yes	abitat Uniqu ⊠No	ieness – v	vetland type	condition metric									
	□ 1 C3	MINO	mas the N.	C. Environme	ntal Management	Commi	ssion clas	sified the a	ıssessı	ment are	a as "Uni	que Wetla	ınds" (UW	L)?"
	Notes	OCT OF A THE STATE OF THE STATE	na a tha a mha chun a cuid a thuadh a mha an an an a chun	***************************************		584-1-4-1 4 56-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-	ka area an said as said an said	The state of the s	TOWNS SERVICE AN ASSESSE	***************************************	ACTION IN CONTRACTOR IN COLUMN		······································	Accordance of the Contract of
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()	diracons componencia rigi caracina assista (qui de common	and the state of t	TO THE STATE OF TH		***************************************	CONTRACTOR OF THE PROPERTY OF		Contract of the Contract of th		***************************************	***************************************		***************************************

Wetland Site Name	55-I-NCWAM02	Date of Assessment 9/6/07			
Wetland Type	Seep		(AS, RA)		
			(**************************************		
Presence of str	ressor affecting assessment area (Y/N)	YES			
	Assessment Form (Y/N)	NO			
	gulatory considerations (Y/N)	NO	•		
	nsively managed (Y/N)	YES			
Wetland may be	e a high-quality riverine wetland (Y/N)				
Sub-function Rating	Summary				
Function	Sub-function	Metrics	Rating		
Hydrology	Surface Storage and Retention	Condition	X		
	Sub-surface Storage and Retent	tion Condition	X		
Water Quality	Pathogen Change	Condition	X		
		Condition/Opportunity	X		
		Opportunity Presence (Y/N)	X		
	Particulate Change	Condition	X		
		Condition/Opportunity	X		
		Opportunity Presence (Y/N)	X		
	Soluble Change	Condition	×		
		Condition/Opportunity	X		
		Opportunity Presence (Y/N)	X		
	Physical Change	Condition	X		
		Condition/Opportunity	X		
		Opportunity Presence (Y/N)	X		
	Pollution Change	Condition	X		
		Condition/Opportunity	X		
Habitat		Opportunity Presence (Y/N)	X		
riabitat	Physical Structure	Condition	LOW		
	Landscape Patch Structure	Condition	MEDIUM		
	Vegetation Composition	Condition	LOW		
	Uniqueness	Condition	NO		
Function Rating Sumr	nary		<u>-</u>		
Function		Metrics	Rating		
Hydrology		Condition	LOW		
Water Quality		Condition	LOW		
		Condition/Opportunity	X		
11-1-9-1		Opportunity Presence (Y/N)	X		
Habitat		Condition	LOW		
Overall Wetland R	ating LOW		<u>, , , , , , , , , , , , , , , , , , , </u>		

ļ	Wetland Si		55-I-WAM03	Date	9/6/07
ĺ		ınd Type		Assessor Name/Organization	AS, RA, EcoScience
	Level III Ed			Nearest Named Water Body	Wooded Lake
			Cape Fear	USGS 8-Digit Catalogue Unit	03030004
,	☐ Yes	⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.151428, -78.900251
	Evidence of	stressors	affecting the assessment area (n	nay not be within the assessment area)	
	(for instance,	and/or ma within 10 prological in ace and so ic tanks, used to soft veget tat/plant co	ake note below if evidence of stress years). Noteworthy stressors includ nodifications (examples: ditches, disub-surface discharges into the we inderground storage tanks (USTs), ation stress (examples: vegetation community alteration (examples: mo	ors is apparent. Consider departure from e, but are not limited to the following. ams, beaver dams, dikes, berms, ponds, e titland (examples: discharges containing nog lagoons, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
	PRODUCTION OF THE PRODUCTION O	CONTRACTOR AND ADDRESS OF THE ADDRES	a intensively managed? 🔲 Yes	S 🔯 No	
	Describe effe New neighborh	cts of str hoods ups	essors that are present. stream; sewerline possibly overflows	;	
	Anad Fede NCD' Wetla Publi N.C. N.C.	apply to the distribution of the distribution	ne assessment area. sh ected species or State endangered of an buffer rule in effect ent to or associated stream drains to I property f Coastal Management Area of Env f Water Quality best usage classific		er) s of HOW, ORW, or Trout
1		Jilateu IVC	Wire reference community		or really or trivial
	⊠ Black	water	ream is associated with the wetla	nd, if any? (Check all that apply)	
		nwater			
		(if tidal, cl	neck one of the following boxes) [Lunar Wind Both	-
11			on a coastal island? Yes	_	·
- 1				⊠ No	
L	s the assessn	nent area	's surface water storage capacity	or duration substantially altered by be	aver? Yes No
1.	Check a both the assessment GS VS □ B □	ox in each nent area. area base A No B Se sec alte	ed on evidence of alteration. It severely altered verely altered over most of the assedimentation, fire-plow lanes, skiddeeration examples: mechanical dists of silversity [if appropriate], artificial its	ne ground surface (GS) in the assessment applicable (see User Manual v1.0). If a result of the second surface alteration exper tracks, bedding, fill, soil compaction, ourbance, herbicides, salt intrusion [where bydrologic alteration)	eference is not applicable, then rate the kamples: vehicle tracks, excessive bvious pollutants) (vegetation structure e appropriate], exotic species, grazing,
2.	Surface and	l Sub-Sur	face Storage Capacity and Durati	on – assessment area condition metric	
	Check a bo (Sub). Cons G) for North water only, applicable. Surf Sul	ix in each sider both Carolina while a d	n column. Consider surface stora increase and decrease in hydrolog hydric soils for the zone of influencitch > 1 foot deep is expected to terms to rage capacity and duration are	ge capacity and duration (Surf) and sub y. Refer to the NRCS Scope and Effect to e of ditches in hydric soils. A ditch ≤1 fc affect both surface and sub-surface ware not altered	-surface storage capacity and duration Guide (see User Manual v1.0 Appendix not deep is considered to affect surface ter. Consider tidal flooding regime, if
	□B □E	B Wa C Wa cha	ter storage capacity or duration are ter storage capacity or duration are	altered, but not substantially (typically, no substantially altered (typically, alteration s fill, sedimentation, channelization, diversi	sufficient to recult in vegetation
3.	Water Stora	ge/Surfac	e Relief – assessment area/wetla	nd type condition metric	
		in each		rage for the assessment area (AA) and th	e wetland type (WT).
)	□A □A □B □E □C □C □D □C □C □C	A > 5 B > 5 C > 5 D > 5		sions able to pond water 1 to 2 feet s able to pond water 6 inches to 1 foot s able to pond water 3- to 6-inches deep	

		المسمم منايا	tion matric
	뙥.	National Technical Committee for Hydric Soils region	inant assessment area landscape feature. Make soil observations within the top foot. onal indicators are noted (use most recent guidance).
<i></i>		 ☑A Sandy soil ☐B Predominantly characterized by mottled (☐C Predominantly characterized by other, mi ☐D Gleyed mineral soil (F2, S4) 	redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)
)) ⊠E Soil ribbon < 1 inch	
		C No post or muck presence	. A40 E4 S4)
		☐ H A peat or muck presence (A6, A7, A8, A9, A9) ☐ Peat or muck soil (histosol or histic epipe	(A1, A2, A3)
	5.		
	-	Check a box in each column. Consider surf Examples of sub-surface discharges include prese	face pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). ence of nearby septic tank, underground storage tank (UST), etc.
		☐A ☒A Little or no evidence of pollutar ☒B ☐B Noticeable evidence of pollutar	nts or discharges entering the assessment area nts or discharges entering the wetland and stressing, but not overwhelming the
		treatment capacity of the asses C C Noticeable evidence of pollutar potentially overwhelming the tr sedimentation)	ssment area nts or discharges (pathogen, particulate, or soluble) entering the assessment area and eatment capacity of the wetland (water discoloration, dead vegetation, excessive
	6.	6. Land Use – opportunity metric	Consider sources draining to assessment area
		Check all that apply. Evaluation of this metric in within entire upstream watershed (WS), within 5 and within the watershed draining to the assessmental plain and Piedmont and 30 feet wide in the Mount	nvolves a GIS effort with field adjustment. Consider sources draining to assessment area miles and within the watershed draining to the assessment area (5M), and within 2 miles the miles area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal trains.
		WS 5M <u>2M</u>	urfaces with stormwater Best Management Practices (BMPs) (land use examples:
		industrial commercia	al, and high-density residential)
		⊠B ⊠B ⊠B > 30% impervious su	urfaces without stormwater BMPs
			ırfaces
		☐E ☐E ☐E Old urban developm	ent (pink areas on USGS 7.5-minute quadrangles)
_		☐ ☐ ☐ Confined animal one	erations (or other local, concentrated source of politicality)
		H ☐H ☐H ≥20% coverage of p	pasture without riparian buffer pasture with effective riparian buffer
`			agricultural land (regularly plowed land) without riparian buffer agricultural land (regularly plowed land) with effective riparian buffer
		□ □ □ >20% coverage of r	maintained grass/nerb
		☐M ☐M ☐M Silvicultural land with	h disturbance < 5 years old ity. Lack of opportunity may result from hydrologic modifications that prevent drainage or
		□N □N □N Little or no opportun overbank flow from :	affecting the assessment area.
	7.	7. Wetland Acting as Vegetated Buffer – assess	ment area condition metric
		Is the assessment area within 50 feet of a stream ⊠Yes □No If No, Skip to n	n or other open water? ("open water" does not include man-made ditches or canals) ext metric
		Stream width (Stream width is normal flow width	th [ordinary high water to ordinary high water]). If the stream is unactimised,
		widths of channels/braids for a total stream width	LINOTADDICADIE
		Do roots of assessment area vegetation extend i	into the bank of the adjacent stream/open water?
			sed?
		⊠Sheltered – adjacent open water wit □Exposed – adjacent open water with	n width < 2500 feet <u>and</u> no regular boat traffic.
	8.	8. Wetland/Riparian Buffer Width – assessment	
		(WC), and the riparian buffer at the assessment only be present on one side of the water bod anastomosed system. Make buffer judgment b	propriate width for the wetiand type at the assessment aloa (two) and need it area (RB) (if applicable). Riparian buffer width is measured from top of bank and need y. The riparian buffer is measured from the outside banks of the outer channels of an obased on dominant landscape feature. Record a note if a portion of the buffer has been
		removed or disturbed. WT WC RB (if applicable)	
		⊠A ⊠A ≥100 feet	eet
		☐C ☐C From 50 to < 80 fe	et
,		D D D From 40 to < 50 fe	et
(DE DE From 15 to < 30 fe	et ·
			at the state of th
		☐H ☐H ☐H < 5 feet	

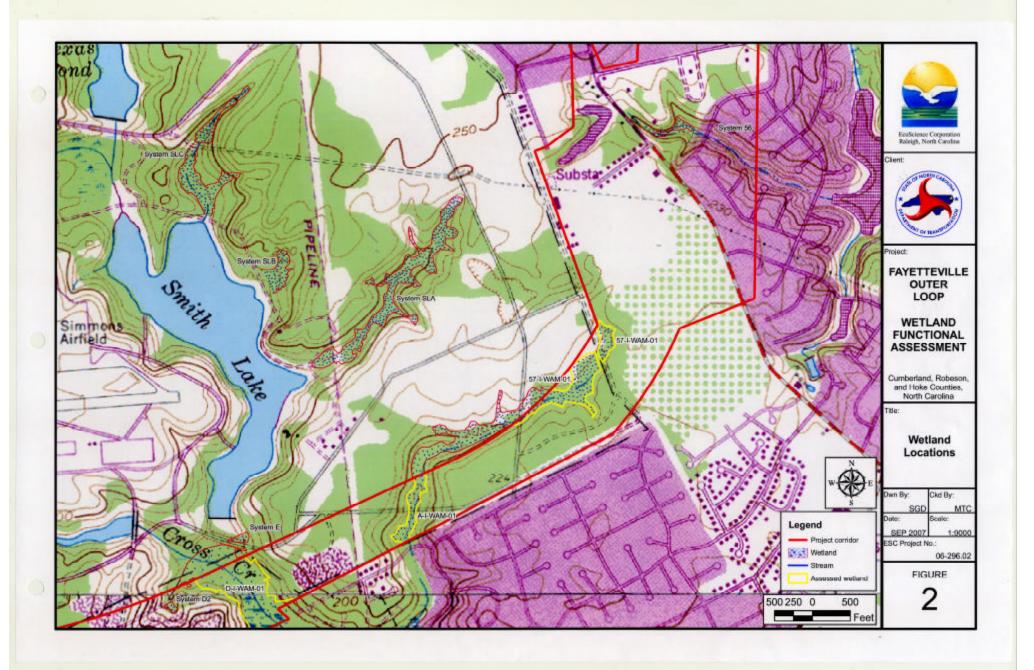
	9.	inimidation Duration – assessment area condition metric
		Answer for assessment area dominant landform. \[\text{A} \text{ Evidence of short-duration inundation (< 7 consecutive days)} \] \[\text{B} \text{ Evidence of saturation, without evidence of inundation} \] \[\text{C} \text{ Evidence of long-duration inundation (7 to 30 consecutive days or more)} \]
	. 10.	Indicators of Deposition – assessment area condition metric
()	Consider recent deposition only (no plant growth since deposition).
` /		 ☑A Sediment deposition is not excessive, but at approximately natural levels. ☑B Sediment deposition is excessive, but not overwhelming the wetland. ☑C Sediment deposition is excessive and is overwhelming the wetland.
	11.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A So00 acres B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D D From 25 to < 50 acres F F F F F F F F F F F F F F F F F F F
	12	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
	12.	☐A Wetland type is the full extent (≥90%) of its natural landscape size.
		□B Wetland type is the full extent (≥90 %) of its natural landscape size.
	13.	Connectivity to Other Natural Areas – landscape condition metric
)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC
		□A □A ≥500 acres 図B □B From 100 to < 500 acres
		□C □C From 50 to < 100 acres □D □D From 10 to < 50 acres
		□E □E < 10 acres
		□F □F Wetland type has a poor or no connection to other natural habitats Check Yes or No.
		Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?
		Edge Effect – wetland type condition metric
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. A No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
		Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat) ☐A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate
		species, with exotic plants absent or sparse within the assessment area.
		 ✓ Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓ Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	16	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	10.	ΠΔ Vegetation diversity is high and is composed primarily of native species.
	1	□B Vegetation diversity is low or has > 10% cover of exotics. □C Vegetation is dominated by exotic species.

	*17 .	Vegetative Structure – assessment area/wetland type condition metric
		∨ Vegetation present vegetation for marches only
		Evaluate percent coverage of vegetation for marshes only □A ≥25% coverage of vegetation
		En 1950/
	`	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
)	AA WT \square A Canopy closed, or nearly closed, with natural gaps associated with natural processes
		 ☐A
		 □A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
		□A □A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent
		☐ Vegetation absent
	18.	Snags – wetland type condition metric
		 □ A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). □ B Not A
	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
		Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. □ Most canopy trees are < 6-inches DBH or no trees.
	20.	Large Woody Debris – wetland type condition metric
		Include both man-made and natural debris piles. ☑A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). ☐B Not A
	721	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
()~	Select the figure that hest describes the amount of interspersion between vegetation and open water in the growing season. Fatterned
		areas indicate vegetated areas, while solid white areas indicate open water.
		. Habitat Uniqueness – wetland type condition metric
		— Unique Wetlands" (UWL)?"
		Yes No Has the N.C. Environmental Management Commission classified the assessment and as simple visiting to the second control of th
	No	tes

Wetland Site Name	55-I-WAM03	Date of Assessment	9/6/07	
Wetland Type	Bottomland Hardwood Forest	Assessor Name/Organization	AS, RA,	EcoScience
Presence of str	ressor affecting assessment area (Y/N)	YES		
Notes on Field	Assessment Form (Y/N)	NO		
Presence of reg	gulatory considerations (Y/N)	NO		
Wetland is inte	nsively managed (Y/N)	NO		
Wetland may b	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	g Summary			
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition		HIGH
	Sub-surface Storage and Reter	ntion Condition		HIGH
Water Quality	Pathogen Change	Condition		LOW
		Condition/Opportunity		MEDIUM
		Opportunity Presence	(Y/N)	YES
	Particulate Change	Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
	Soluble Change	Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
	Physical Change	Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
	Pollution Change	Condition		X
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		LOW
	Vegetation Composition	Condition		LOW
	Uniqueness	Condition		NO
Function Rating Sur	nmary			
Function		Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
Habitat		Condition		LOW

Overall Wetland Rating HIGH





	Wet	and Site	Name	57-I-WAM01		(undary 12, 2)		
	- 1	Wetland	Type	Headwater We	etland		Date	9/7/07
	Leve	el III Ecor	egion	Southeastern F	Plains	Assessor Name	/Organization	AS, RA, EcoScience
		River	_	Cape Fear		USGS 8-Digit C	d Water Body	_Cross Creek
	/	Yes [⊴ No	Precipitation v	within 48 hrs?	Latitude/Longitude (deci-dogrees	03030004
	Eviden	ce of stre	ssors	affecting the as	Sessment area /			35.133862, -78.909867
	(for inst	ance, with Hydrolo Surface septic ta Signs of Habitat/p	nin 10 y gical m and s anks, ur vegeta olant co	rears). Noteworth nodifications (exalub-surface discharged discharged discharged discharged discharged (exalubration stress (exalubrati	hy stressors including mples: ditches, disarges into the weige tanks (USTs), mples: vegetation on (examples: mo	ors is apparent. Consider le, but are not limited to the ams, beaver dams, dikes, lettand (examples: discharge	r departure from e following. berms, ponds, e ges containing o	reference if appropriate in recent
	THE CONTRACTOR OF THE PARTY OF	COCCUS deliments on the State of the Property of the State of the Stat	error somerome om ment	ssors that are p		No No		
	Road Ca	useway ti	or stre Trough	wetland, Fort Br	resent.			
			ougii	Welland, Foll Br	agg			
	* Address of the second		THE RESIDENCE OF THE PERSON OF					1
	Regulate	ory Consi	deration	ons			*************************************	
		Anadrom	y to the	e assessment are	ea.			
		Federally	protec	ted species or S	tate endangered -	r threatened species		
								·
	×	Publicly o	adiacer	It to or associate	d stream drains to	a Primary Nursery Area		
		N.C. Divis	sion of	υτορеπу Coastal Manago	mont A	,, ,		
		N.C. Divis	ion of	Water Quality be	st usage classified	onmental Concern (AEC) tion of SA or supplementa	(including buffer	-)
	Ш	Designate	d NCN	IHP reference co	mmunity	don of SA or supplementa	I classifications	of HQW, ORW, or Trout
	What type	e of natur	al stre	am is associate	d with the wetlar	id, if any? (Check all that		
- 1					- was the wetter	id, if any? (Check all that	t apply)	
		Brownwati Fidal (if tid		okana seu eu				
	_	ridai (ii tid	ai, che	ck one of the foll	owing boxes)] Lunar 🔲 Wind 🔲	Both	
				n a coastal islaı		⊠ No		
	Is the ass	essment	area's	surface water s	torage capacity	or duration substantially	altored by be-	
1	. Ground	d Surface	Condi	ition/Vegetation	Condition	essment area condition r	artered by bear	ver? ☐ Yes ☒ No
	Check	a box in	each o	column Consid	or alteration - asse	essment area condition r	netric	
	the ass	essment a	area. (Compare to refer	ence wetland if a	ground surface (GS) in t	the assessment	area and vegetation structure (VS) in erence is not applicable, then rate the
	assessi GS	monte di ca	based	on evidence of a	alteration.	phicable (see User Manua	al v1.0). If a ref	erence is not applicable, then rate the
	⊠A	VS ⊠A						
	□в	□B	Seve	everely altered	most of the			
•			less c	ition examples: diversity [if appro	mechanical distu priate], artificial hv	bance, herbicides, salt in	trusion [where	mples: vehicle tracks, excessive rious pollutants) (vegetation structure appropriate], exotic species, grazing,
2.	Surface	and Sub	-Surfac	ce Storage Can:	acity and Durotic		idition motris	
	(Sub). (G) for Nowater or applicable Surf ⊠A	Consider borth Carolally, while le. Sub	ooth inc ina hyd a ditch Water	crease and decred dric soils for the or one of the or of	er surface storage ease in hydrology. zone of influence is expected to a	e capacity and duration (S Refer to the NRCS Scop of ditches in hydric soils, ffect both surface and su	Surf) and sub-su le and Effect Gu A ditch ≤1 foot lb-surface water	urface storage capacity and duration lide (see User Manual v1.0 Appendix deep is considered to affect surface. Consider tidal flooding regime, if
	□B □C		Water change	storage capacity storage capacity e) (examples: in:	or duration are al	tered, but not substantially bstantially altered (typicall	(typically, not soly, alteration suffication, diversion	ufficient to change vegetation). ficient to result in vegetation , man-made berms, beaver
3.	Water St	orage/Su	rface F	Relief – assessn	ent area/wetland	type condition		
	Check a	box in ea	ch col	umn. Select the	annionriate store	ge for the assessment area		
`	AA □	WT	_	22.300 1116	~bbiobilare 2019(ge ioi trie assessment area	a (AA) and the w	vetland type (WT).
)	∐A	∐A	> 50%	of the wetland ty	pe with depression	ns able to pond water > 0.4	¢ ı	
			0070	or the wetland ty	DE WILL GEDRESSIA	is able to pond water 4 to	0.6. /	
	□D	□Ď	> 50%	of wetland type v	villi debressions a	ble to pond water 6 inches		

7.	0011 1 67	ttai o, oti a	otal o		
	National	l Technica	I Commit	g soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. tee for Hydric Soils regional indicators are noted (use most recent guidance).	
	⊠a □B	Sandy s	oli nantly ch	aracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)	
	⊟c ⊟c	Predomi	nantiv ch	aracterized by other, mineral soil (no mottling)	
	ΠĎ			oil (F2, S4)	()
	⊠E	Soil ribb	on < 1 inc	ch	` _ '
	□F		on ≥ 1 ind		
	□G	No peat	or muck	presence	
	⊠H □I	A peal of	r muck pi muck soil	resence (A6, A7, A8, A9, A10, F1, S1) (histosol or histic epipedon) (A1, A2, A3)	
_	_			•	
5.				opportunity metric	
	Example	es of sub-	each c e surface d	olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). ischarges include presence of nearby septic tank, underground storage tank (UST), etc.	
	Surf	Sub ⊠A	Little or	no evidence of pollutants or discharges entering the assessment area	
	⊠A □B	□B	Noticea	ble evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the	
			treatme	nt capacity of the assessment area	
	□c	□c	Noticea	ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and	
			potentia sedimer	ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive ntation)	
6.	Land U	se – oppo	rtunity n	netric	
	Check a	all that an	olv. Eva	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area	
	within e	ntire upstr	eam wate	ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles	
	and with	nin the wa	tershed d	Iraining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal	
) feet wide in the Mountains.	
	WS	5M □A	2M	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:	
	□A	ЦΑ	□A	industrial, commercial, and high-density residential)	
	□в	⊠в	□в	> 30% impervious surfaces without stormwater BMPs	
	□c	□c	⊠c	10 to 30% impervious surfaces	
	⊠D			< 10% impervious surfaces	
	ΠE	먇	□E □F	Old urban development (pink areas on USGS 7.5-minute quadrangles)	
	□F □G	□F □G	∐g	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)	
	□G □H	H	H	≥ 20% coverage of pasture without riparian buffer	Ų,
				≥ 20% coverage of pasture with effective riparian buffer	
			□J	≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer	
	□ĸ	□ĸ	□ĸ	≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer	
			□L □M	≥ 20% coverage of maintained grass/herb Silvicultural land with disturbance < 5 years old	
	□N □N	□N	∐Ñ	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or	
	U''	··	ш.,	overbank flow from affecting the assessment area.	
7.	Wetlan	d Acting a	as Vegeta	ated Buffer – assessment area condition metric	
	Is the a			hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)	
	Ctroom	☐Yes	MNO ⊠NO	If No, Skip to next metric th is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine	
				for a total stream width.	
		∏≤ 15-1	feet wide	> 15-feet wide Not Applicable	
	Do root	s of asses	sment are	ea vegetation extend into the bank of the adjacent stream/open water?	
		∐Yes			
	Is stream	m or other	open wa	tter sheltered or exposed? ljacent open water with width < 2500 feet <u>and</u> no regular boat traffic.	
			ereu – au sed – adi:	acent open water with width ≥ 2500 feet <u>and</u> no regular boat traffic.	
_	147 41		-		
8.				Width – assessment area/wetland type/wetland complex metric	
	Check	a box in	each col	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex ffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need	
	only be	nresent (on one s	ide of the water body. The riparian buffer is measured from the outside banks of the outer channels of an	
	anastor	nosed sys	tem. Ma	ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been	
		d or distur	bed.		
	WT	WC	RB (if a	applicable)	
	⊠A	⊠A	□a`	≥ 100 feet	
	□B	□в	□в	From 80 to < 100 feet	
	□c	□c	□c	From 50 to < 80 feet	(
	□D	□₽	먇	From 40 to < 50 feet From 30 to < 40 feet	₹.
	먇	먎	□E □F	From 15 to < 30 feet	
	E.	□F □G	Ġ	From 5 to < 15 feet	
	□G □H	□G □H	딺	< 5 feet	
		_			

•	, !	nu <u>ل</u> ہ .9	ndation Duration – assessment area condition metric
		Ans	swer for assessment area dominant landform
			Evidence of short-duration inundation (< 7 consequitive dec.)
			= 1000000 of Saturation Without Avidence of invadets
_	\ 1	0. Ind	cators of Deposition – assessment area condition metric
)	201	sider recent deposition only (no plant growth since deposition)
		⊠A ⊟B	
		□c	
	1	1. Wet	and Size – wetland type/wetland complex condition matrix
		CHE	kN d DOX IN each column lovelyes - oroller
		a bo WT.	undary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column. If assessment area is clear-cut, select "K" for FW column.
		WT □A	(ii applicable)
		□в	B B From 100 to < 500 acres
			☐C ☐C From 50 to < 100 acres
		\boxtimes E	⊠E From 10 to < 25 acres
		□F □G	☐F ☐F From 5 to < 10 acres
		□н	☐ ☐ ☐ From 1 to < 5 acres ☐ ☐ ☐ From 0.5 to < 1 acre
		□1 □1	From 0.1 to < 0.5 acre
		∐κ	□J □J From 0.01 to < 0.1 acre □K □K < 0.01 acre
	12.	Wetla	nd Intactness – wetland type condition metric (evaluate for Pocosins only)
			** Stiding type is the full extent (>00%) of its notine it.
	12	∐В Сапи	Type to 100 % of the full extent of its natural landscape size
	IJ.	Check	ectivity to Other Natural Areas – landscape condition metric
		approp	riate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes maintained field (if
		agricul landsc WC	triate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and ape patch. LC
		ØΑ	□A ≥500 acres
		□B □C	☐B From 100 to < 500 acres ☐C From 50 to < 100 acres
		\Box D	□D From 10 to < 50 acres
		□E □F	□E < 10 acres
			□F Wetland type has a poor or no connection to other natural habitats Yes or No.
		□Yes □Yes	□No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)
14	1 . i	Edge E	ffect – wetland type condition metric
	l t	Estimati wo-lane	e distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, ints of the compact
	ŗ	nain po	and of the compass.
	-	∐A ⊠B	The distribution dude within 100 teet in all directions
]̈́c	No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in more than feet in feet in feet in more than feet in
15	٠ ٧	/egetati	An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut ve Composition – assessment area condition metric (skip for marshes and Pine Flat)
	D	₫A	
	Е	В	species, with exotic plants absent or sparse within the assessment area. Lower strata composed of appropriate Vegetation is different from reference condition.
	_		characteristic of the west and the Condition in species diversity or proportions, but still largely composed of native
]C	Vegetation severely altered from reference in a severely altered from the severely altered
16.	V	egetati	species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
`			- 2 - 1 - 1 - 1 - 2 - 2 - 2 - 2 - 2 - 2
			Vegetation diversity is high and is composed primarily of native species. Vegetation diversity is low or has > 10% cover of exotics.
	L]C	Vegetation is dominated by exotic species.

1	*	17. 👍	/egetativ	e Structur	e – assessment area	/wetland tyne	Condition	matria				
			⊐ veg	ration pres	ent			metric				
1			Eval □A	uate percei	nt coverage of veget	ation for mar	shes only					
į			□В	< 25%	COVERAGE OF VEGETATION	n						
į			Chec	kaboxir	each column for	22ch 24re4	Evaluato	Abia maner				
1)	~~	VVI	pace above the asse		• •	- would ty	oc (**1) sep	aratery.		. Conside
			⊠a □b □c	⊠A □B □C	Canopy closed, or r Canopy present, bu Canopy sparse or a	nearly closed, t opened more bsent	with natural e than natura	gaps associat al gaps	ed with natur	al processes		
			□A □B ⊠C	□A □B ⊠C	Dense mid-story/sap Moderate density m Mid-story/sapling lay	id-story/sanlin	g layer absent					
			⊠A □B □C	⊠a □b □c	Dense shrub layer Moderate density sh Shrub layer sparse o	rub laver						
			□A ⊠B □C	∏A ⊠B ∏C ation abser	Dense herb layer Moderate density he Herb layer sparse or	rb layer absent						
		.o. 511	ays – we	rge spage (condition metric							
		Ζ̈́E	3 No	ot A	more than one) are pr	resent (> 12-ir	iches DBH,	or large relativ	e to species	present and I	andscape stabilit	ty).
	1	19. Dia	meter C	lass Distrit	oution - wetland type	condition m	etric					
!			A Mo	ost canopy t	rees have stems > 6-i	nches in diam	eter at breas	st height (DBH	l): many laro	trooc (> 12	inches DDID	
			, IVIC	osi canopy t	rees have stems betw rees are < 6-inches D	een 6- and 12	inches DO	l, few are > 12	2-inch DBH.	7 11 663 (> 12-	inches DBH) are	
	2	0. Lar	ge Wood	dy Debris –	wetland type condit	ion metric	,.					
		incii	ude both	man-made	and natural debris bile	20						
	_	∐A ⊠B	. Lar No	ge logs (mo t A	re than one) are pres	ent (> 12-inch	es in diamet	er, or large rel	ative to spec	ies present a	nd landscape sto	shilites)
	()2	1. Veg	etation/0	Open Water	Dispersion wetter				·	,	a idildocape sta	Diffey).
	()	Sele area	ct the fig s indicat	e vegetated	Dispersion – wetlar st describes the amo areas, while solid wh	nd type/open unt of interspe ite areas indic	water cond ersion betwe ate open wa	i tion metric (e en vegetation ter.	evaluate for and open w	Non-Tidal Fi ater in the g	reshwater Marsh rowing season.	n only) Patterned
						3		⊒c		□D		
		l										
	22	Hahit	at Union	longes	-41- 14							
		Yes [at omqt ⊠No	Has the N.	etland type condition	n metric						
		. 00	4 1.40	i ias lile iv.(C. Environmental Man	agement Com	mission clas	sified the ass	essment area	a as "Unique	Wetlands" (UWI)?"
	Not	tes	Mark Marcollon, All and an operation have	TO COME TO THE OWNER, STORE AND ADDRESS OF THE OWNER, AND ADDRESS OF T			4-2-4-4-5-4-5-4-4-4-5-5-4-4-4-5-5-4-4-4-5-5-4-4-4-5-5-4-4-4-5-5-4-4-4-5-5-4-4-4-5-5-4-4-4-5-5-4-4-4-5-5-4-4-4			•	(01,5)	,.
		.00							**************************************	***************************************	**************************************	DEPARTMENT NAMED AND ADDRESS OF
	_											
	- Andrewson and	THE RESERVE OF THE PERSON OF T	ACCES MARKETON CONTRACTOR DATE SANSON			*************************************	************************					
/	1									**************************************		ACCIONATION DE COMPANSON

Wetland Site Name	57-I-WAM01	Date of Assessment 9/7/0	
Wetland Type	Headwater Wetland	· · · · · · · · · · · · · · · · · · ·	
		Assessor Name/Organization AS, I	RA, EcoScience
Presence of str	ressor affecting assessment area (Y/N)	YES	
Notes on Field	Assessment Form (Y/N)	NO	
Presence of reg	gulatory considerations (Y/N)	YES	
Wetland is inter	nsively managed (Y/N)	NO	
	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	Summary		
Function	Sub-function Sub-function	Metrics	
Hydrology	Surface Storage and Retention	Condition	Rating
	Sub-surface Storage and Retenti		HIGH
Water Quality	Pathogen Change	Condition	HIGH
	3.		LOW
		Condition/Opportunity	MEDIUM
	Particulate Change	Opportunity Presence (Y/N)	YES
•	onango	Condition	HIGH
		Condition/Opportunity	X
	Soluble Change	Opportunity Presence (Y/N)	X
	Colubie Change	Condition	HIGH
		Condition/Opportunity	HIGH
	Physical Change	Opportunity Presence (Y/N)	YES
	Filysical Change	Condition	LOW
		Condition/Opportunity	LOW
	Dollation Of	Opportunity Presence (Y/N)	NO
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
labitat	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
unction Rating Summ	ary		
unction		Metrics	Rating
lydrology		Condition	
/ater Quality		Condition	HIGH
		Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	HIGH
abitat		Condition (17N)	YES
verall Wetland Ra			HIGH

	1	Wetland 7	-			
		Wetianu	Type		Date Assessor Name/Organization	9/7/07 AS, RA, EcoScience
_	Leve	III Ecore	gion		Nearest Named Water Body	Cross Creek
		River B Yes ⊠	asın No		USGS 8-Digit Catalogue Unit	03030004
- 1				Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.128225, -78.918120
	(for insta	ance, withing Hydrolog Surface septic tare Signs of Habitat/p	in 10 ya gical m and si nks, ur vegeta alant co	ears). Noteworthy stressors included of stress ears). Noteworthy stressors included odifications (examples: ditches, daub-surface discharges into the wenderground storage tanks (USTs), ation stress (examples: vegetation ommunity alteration (examples: moteration).	mortality, insect damage, disease, storm dowing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past tc.) byvious pollutants, presence of nearby
	Describe	e effects o	of stre	SSOrs that are present	S No	
	Road Ca	iuseway th	irough	wetland with culvert, Fort Bragg		
	Select all	Anadromo Federally NCDWQ	to the ous fish protection to the protection of	e assessment area. h sted species or State endangered on n buffer rule in effect		The state of the s
		N.C. Divis N.C. Divis	ion of	Coastal Management Area of Envi	o a Primary Nursery Area ronmental Concern (AEC) (including buffer ation of SA or supplemental classifications	r) of HQW, ORW, or Trout
	≒	e of natur Blackwate Brownwate		eam is associated with the wetla	nd, if any? (Check all that apply)	
				eck one of the following boxes)	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
1					」Lunar ☐ Wind ☐ Both	·
- 1						ver? ☐ Yes ☒ No
1.	Groun	d Surface	Cond	lition/Vegetation Condition – ass	essment area condition matri-	
	the ass assess GS	sessment a ment area VS	each area. based	column. Consider alteration to the Compare to reference wetland if a don evidence of alteration.	te ground surface (GS) in the assessment applicable (see User Manual v1.0). If a ref	area and vegetation structure (VS) in ference is not applicable, then rate the
	⊠A □B	⊠а □в	Seve sedir altera less	ation examples: mechanical distudired diversity [if appropriate], artificial h	ssment area (ground surface alteration exa r tracks, bedding, fill, soil compaction, ob urbance, herbicides, salt intrusion [where ydrologic alteration)	amples: vehicle tracks, excessive vious pollutants) (vegetation structure appropriate], exotic species, grazing,
2.	Surface	e and Sub	-Surfa	ace Storage Capacity and Duratio	on – assessment area condition metric	
	(Sub). G) for N	Consider to	both in lina hy	column. Consider surface storage icrease and decrease in hydrology after the zone of influence of the constant	ge capacity and duration (Surf) and sub-s Refer to the NRCS Scope and Effect Go of ditches in hydric soils. A ditch ≤1 foo affect both surface and sub-surface wate	uide (see User Manual v1.0 Appendix
	⊠A □B □C	⊠A □B □C	Wate Wate chang dams	ge) (examples: intensive ditching, , stream incision, sewer lines, soil	altered, but not substantially (typically, not so substantially altered (typically, alteration su- fill, sedimentation, channelization, diversion compaction).	sufficient to change vegetation). fficient to result in vegetation n, man-made berms, beaver
3.	Water S	torage/Su	ırface	Relief - assessment area/wetlar	nd type condition metric	
	Check a	a box in ea	ach co	plumn . Select the appropriate stor	age for the assessment area (AA) and the	wetland type (WT).
	AA BB CC DD E	WT □A ⊠B □C □D □E	> 50% > 50% > 50% > 50%	6 of the wetland type with depressi 6 of the wetland type with depressi 6 of wetland type with depressions	ons able to pond water > 2 feet ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot able to pond water 3- to 6-inches deep	

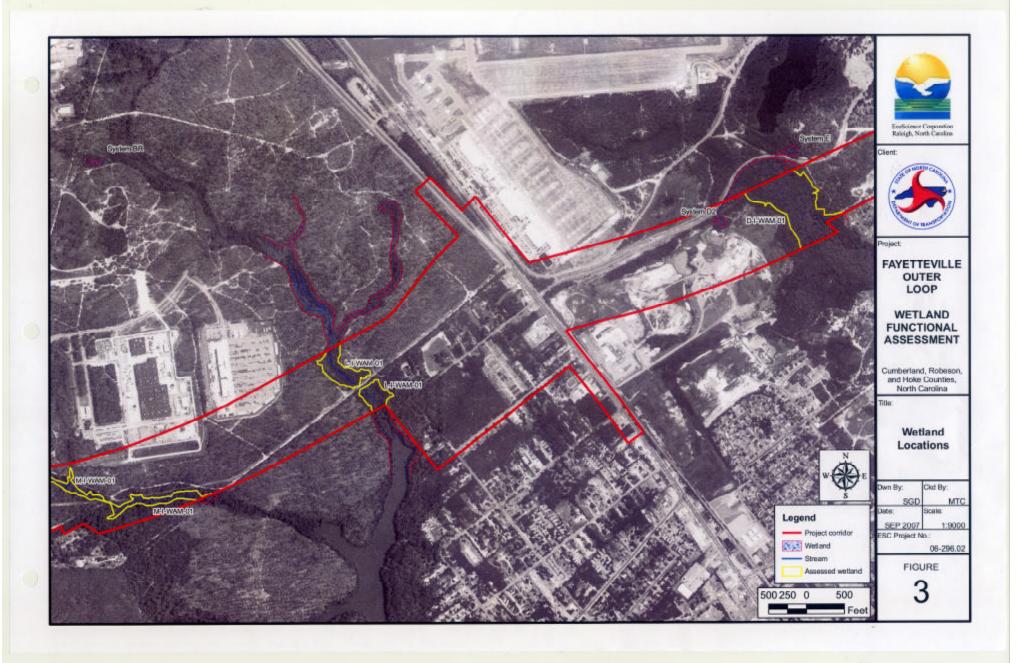
	4.	s Soil J	exture/S	tructure	- assessment area condition metric
		Selec	t all that	apply	Dig soil profile in the deminant
		Nation ⊠A	iai Techni Sandy	ical Com / soil	by soil profile if the dominant assessment area landscape feature. Make soil observations within the top foot, mittee for Hydric Soils regional indicators are noted (use most recent guidance).
		ДВ	Predo	minantly	characterized by mottled (redov/morphic foothurs)
			Predoi Gleved	minantly d minera	characterized by other, mineral soil (no mottling) I soil (F2, S4)
)	⊠E	Soil rib	obon < 1	inch
		□F □G	Soil rib	obon ≥1	inch ck presence
		\boxtimes H	A peat	or muck	Presence (A6, A7, A8, A9, A10, E1, C1)
	_		r eat of	i illuck s	oli (nistosol or histic epipedon) (A1, A2, A3)
	5.	Discha	rge into	Wetland	l – opportunity metric
		Exampl	les of sub	n each -surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).
		Surf ⊠A	Sub		y artist tariff, and arground storage tarik (US1), etc.
		□B	⊠a ⊟B	Notice	or no evidence of pollutants or discharges entering the assessment area
		□с	□с	treatm	eable evidence of pollutants or discharges entering the assessment area sent capacity of the assessment area
				potent	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ially overwhelming the treatment capacity of the wetland (water discolarstian at a decider of the solution).
				sedim	entation) excessive
	6.	Land Us	se – oppo	ortunity	metric
		Within ea	all that ap	oply. Ev	raluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area tershed (WS), within 5 miles and within the watershed draining to the assessment area.
		and with	in the wa	tershed	tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (5M), and within 2 miles 0 feet wide in the Mountains.
		WS WS	d Piedmo 5M	nt and 3 2M	0 feet wide in the Mountains.
		□A	□A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
		□в	⊠в	⊠в	industrial, commercial, and high-density residential)
		□c	□c	□с	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces
		⊠D □E	□D □E	□D □E	< 10% impervious surfaces
_		□F	□F	□F	Old urban development (pink areas on USGS 7.5-minute quadrangles) New adjacent development
		□G □H	∐G ∐H	□G □H	Confined animal operations (or other local, concentrated as a second of the concentrated as a
		□!			≥20% coverage of pasture with effective ringring buffer
			□k □l	□J □K	220 /0 COVERAGE Of addicultural land (regularly played level)
					≥20% coverage of maintained grass/herb
				∐M □N	Slivicultural land with disturbance < 5 years old
					Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
7.	٠ ١	Netland A	Acting as	Vegeta	ted Buffer - assessment area condition motified
	f:	s the asse ا	essment a ⊠∨es l	area with	IIN 50 feet of a stream or other open water? ("open water" daga and it is to
	S	stream wi	dth (Strea	וואס am widtl	If No, Skip to next metric is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine rated at the stream width.
	W	vidths of c	channels/l ⊠ ≤15-fee	braids fo	
	D	o roots o	f_assessn	nent are:	☐> 15-feet wide ☐Not Applicable a vegetation extend into the bank of the adjacent stream/open water?
					er sheltered or exposed?
		12	⊠oneitere	ed – adia	Cent open water with width < 2500 feet
_		_			on open water with width ≥2500 feet or regular hoat traffic
8.	W	etiano/R	iparian B	Buffer W	idth - assessment area/wetland type/wetland a second
	(V	VC), and	the ripari:	an huffe	mn. Select the appropriate width for the wetland type at the assessment area (WT) the wetland complete
	O1	WY DE DIE	esent on	ODE SIDE	of the water had. The standard and mand
	re	moved or	disturbed	п. Маке d.	buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	VV	ַו	'V K	R (It abb	dicable)
					≥100 feet From 80 to < 100 feet
]C []C 🗵	₫ C	From 50 to < 80 feet
)		ir L]D .	From 40 to < 50 feet From 30 to < 40 feet
/		lf 🗀]F [JF I	From 15 to < 30 feet
]G	From 5 to < 15 feet
	ш	ı'' L	Jii L]H .	< 5 feet

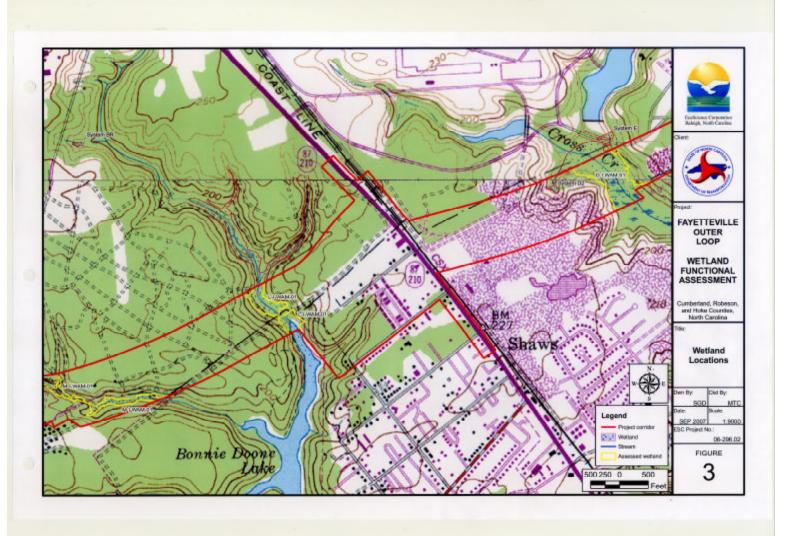
	9≈ inu	ndation Duration – assessment area condition metric
	Ans	wer for assessment area dominant landform
	∐A ∏B	Evidence of saturation, without evidence of invested
	⊠c	Evidence of long-duration inundation (7 to 30 consecutive days or more)
	10. Indi	cators of Deposition – assessment area condition metric
	Con: ⊠A	sider recent deposition only (no plant growth since deposition). Sediment deposition is not excessive, but at approximately natural levels.
	□B	ocament deposition is excessive that not overwholming the western it
	□C 11 Wat	ocument deposition is excessive and is overwhelming the wetland.
	Chec	and Size – wetland type/wetland complex condition metric
	a bou WT. WT A BB CC DD	ck a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if cable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms if extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WC FW (if applicable) □A □A ≥500 acres □B □B From 100 to < 500 acres □C □C From 50 to < 100 acres □D □D From 25 to < 50 acres □E □E From 10 to < 25 acres □F □F From 5 to < 10 acres □G □G From 1 to < 5 acres
	□H	☐H ☐H From 0.5 to < 1 acre
		☐I ☐I From 0.1 to < 0.5 acre ☐J ☐J From 0.01 to < 0.1 acre
	□K	□K □K < 0.01 acre
12	2. Wetla	nd Intactness – wetland type condition metric (evaluate for Pocosins only)
	∐A □B	vietiditu type is the full extent (>90%) of its natural landanasa.
13	3. Conne	Wetland type is < 90% of the full extent of its natural landscape size. Pectivity to Other Natural Areas – landscape condition metric
\supset	approp	appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if ture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the LC
	⊠в	B From 100 to < 500 acres
	□c □D	☐C From 50 to < 100 acres ☐D From 10 to < 50 acres
	□E	□E < 10 acres
	□F Chack	□F Wetland type has a poor or no connection to other natural habitats Yes or No.
	□Yes □Yes	No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Is the assessment area subject to overbank flooding during normal conditions?
14.	Edge E	ffect – wetland type condition metric
	Estimate two-lane	e distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,
	main po	ints of the compass. To years old. Consider the eight
	∐A ⊠B	No artificial edge within 150 feet in all directions
	□с	No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Vegetati	ve composition – assessment area condition metric (skin for merchan and B)
	⊠A	Vogetation is close to reference condition in energies property and the
	□в	characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with excites present but he wetland type.
		Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetati	ve Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
)	<u></u>	vegetation diversity is high and is composed primarily of native species
J	□B □C	Vegetation diversity is low or has > 10% cover of exotics. Vegetation is dominated by exotic species.

17. Vegetative Structure – assessment area/wetland type condition metric
□ vegetation present
Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation
LIB < 25% coverage of vegetation
Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider AA WT
 ☑A ☑B ☐B Canopy present, but opened more than natural gaps ☐C ☐C Canopy sparse or absent
 ☒A ☒A ☐B ☐B Moderate density mid-story/sapling layer ☐C ☐C Mid-story/sapling layer sparse or absent
□A □A Dense shrub layer □B ☑B Moderate density shrub layer □C □C Shrub layer sparse or absent
□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent
□ vegetation absent
18. Snags – wetland type condition metric A Large snags (more than one) are present (> 40 instance).
□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A
19. Diameter Class Distribution – wetland type condition metric
present.
 ✓B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ✓C Most canopy trees are < 6-inches DBH or no trees.
20. Large Woody Debris – wetland type condition metric
Include both man-made and natural debris piles
□ A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).
21. Vegetation/Open Water Dispersion – wetland type/open water condition matrix (
Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
UA □B □C ←
22 Habitani I
22. Habitat Uniqueness – wetland type condition metric ☐ Yes ☐ No Has the N.C. Environmental Management Commission to the condition of the c
☐Yes ☑No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
Notes

 \bigcirc

Wetland Site Name	A-I-WAM01	Date of Assessment 9/7/0	7
Wetland Type	Riverine Swamp Forest A		RA, EcoScience
Presence of str	essor affecting assessment area (Y/N)	YES	u, Leoccience
Notes on Field	Assessment Form (Y/N)		
Presence of reg	gulatory considerations (Y/N)	NO NO	
Wetland is inter	nsively managed (Y/N)	YES	
Wetland may be	e a high-quality riverine wetland (Y/N)	NO	
Sub-function Rating	-		
Function	Sub-function	Metrics	
Hydrology	Surface Storage and Retention	Condition	Rating
	Sub-surface Storage and Retention	Condition	HIGH
Water Quality	Pathogen Change		HIGH
	Sam anango	Condition	LOW
		Condition/Opportunity	MEDIUM
	Particulate Change	Opportunity Presence (Y/N)	YES
	a modulate offeringe	Condition	HIGH
		Condition/Opportunity	HIGH
	Soluble Change	Opportunity Presence (Y/N)	YES
	Change	Condition	HIGH
		Condition/Opportunity	HIGH
	Physical Chara	Opportunity Presence (Y/N)	YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
	Dollaria Or	Opportunity Presence (Y/N)	NO
	Pollution Change	Condition	X
		Condition/Opportunity	X
labitat		Opportunity Presence (Y/N)	X
-aonar	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
unction Rating Summa	ary		
unction		Metrics	
ydrology		Condition	Rating
ater Quality		Condition	HIGH
		Condition/Opportunity -	HIGH
		Opportunity Presence (Y/N)	HIGH
abitat		Condition —	YES
verall Wetland Rat		Condition	HIGH





- 1		oite Name	D-I-WAM01	Date	9/7/07
- 1		land Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience
		coregion	Southeastern Plains	Nearest Named Water Body	Cross Creek
	_	ver Basin	Cape Fear	USGS 8-Digit Catalogue Unit	03030004
ŕ	☐ Yes	⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.126296, -78.924810
	flease circle (for instance,	e and/or ma , within 10 y drological m rface and s otic tanks, u ns of veget bitat/plant c	ke note below if evidence of stressor rears). Noteworthy stressors include, nodifications (examples: ditches, dam ub-surface discharges into the wetla nderground storage tanks (USTs), ho	but are not limited to the following. Ins, beaver dams, dikes, berms, ponds, eand (examples: discharges containing graphs) Installity insect damage, disease, storm of the containing graphs.	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
	Describe eff Fort Bragg	ects of stre	essors that are present.		
1.			<u> </u>		·
	Ana Fed NCI Wet Pub N.C	t apply to the dromous fix lerally prote DWQ ripariation adjace licly owned Division or Division or the desired the control of the desired	e assessment area. sh cted species or State endangered or an buffer rule in effect ent to or associated stream drains to a property f Coastal Management Area of Enviro		er) s of HQW, ORW, or Trout
	Brov Tida	ckwater wnwater II (if tidal, ch		d, if any? (Check all that apply) Lunar □ Wind □ Both No	
Į.	s the assess	ment area	s surface water storage capacity o	– r duration substantially altered by be	over2 M Vas C N
					aver? 🛛 Yes 🗌 No
1.	Check a beauthe assessment GS V	oox in each ament area. Int area base 'S A No B Se sec alte	t severely altered over most of the assess dimentation, fire-plow lanes, skidder	ground surface (GS) in the assessment plicable (see User Manual v1.0). If a result of the second surface alteration extracks, bedding, fill, soil compaction, or bance, herbicides, salt intrusion tuber.	nt area and vegetation structure (VS) in eference is not applicable, then rate the examples: vehicle tracks, excessive obvious pollutants) (vegetation structure e appropriate], exotic species, grazing,
2.	Surface an			n – assessment area condition metric	
	Check a b (Sub). Cor G) for Norti water only, applicable. Surf SI	ox in each sider both h Carolina is while a di ub [A Wa] A Wa] B Wa Cha	in column. Consider surface storage increase and decrease in hydrology. hydric soils for the zone of influence tch > 1 foot deep is expected to a ster storage capacity and duration are alter storage capacity or duration are alter storage capacity or duration are ster ng and decrease and decreas	e capacity and duration (Surf) and sub Refer to the NRCS Scope and Effect of ditches in hydric soils. A ditch ≤ 1 for ffect both surface and sub-surface wan not altered. Itered, but not substantially (typically, no ubstantially altered (typically, alteration soil, sedimentation, channelization, divers	re-surface storage capacity and duration Guide (see User Manual v1.0 Appendix not deep is considered to affect surface ster. Consider tidal flooding regime, if the sufficient to change vegetation).
3.	Water Stor	age/Surfac	e Relief – assessment area/wetlan	d type condition metric	
		•		age for the assessment area (AA) and th	ne wetland type (WT).
١	AA W		The second secon	Service and acceptance and a first of and an	
ار	⊠A ⊠ □B □ □C □ □D □	A > 5 B > 5 C > 5 D > 5	0% of the wetland type with depression of the wetland type with depression of wetland type with depressions of wetland type with depressions oressions able to pond water < 3-incher	ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot able to pond water 3- to 6-inches deep	

€	. 4	4. Soil Texture/Structure – assessment area condition metric	
		Select all that apply Did soil profile in the	
		Select all that apply. Dig soil profile in the dominant assessment at National Technical Committee for Hydric Soils regional indicators are not the American Sandy soil	ea landscape feature. Make soil observations within the top feet
		LIB Predominantly characterized by mottled (radam to the	
		Predominantly characterized by mottled (redoxymorphic feature) Gleved mineral soil (F2.24)	es), mineral soil (F6, F8, F12, TF10, S5, S6)
()	Gleyed mineral soil (F2, S4) Soil ribbon < 1 inch	, , , , , , , , , , , , , , , , , , ,
`		☐F Soil ribbon ≥1 inch	
		☐G No peat or muck presence	
		A peat or muck presence (A6 A7 A8 A9 A10 E1 C1)	
		Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)	
	5.	5. Discharge into Wetland – opportunity metric	
		Check a box in each column Consider a	
		Examples of sub-surface discharges include presence of nearby septic to	charges (Surf) and sub-surface pollutants or discharges (Sub)
			to and storage tank (OST), etc.
			ng the assessment area
		treatment capacity of the	ng the assessment area ng the wetland and stressing, but not overwhelming the
		treatment capacity of the assessment area C C Noticeable evidence of pollutants are discharges entering.	out not overwhelming the
		potentially overwhelming the treatment capacity of the	ogen, particulate, or soluble) entering the assessment area and
		sedimentation)	ogen, particulate, or soluble) entering the assessment area and wetland (water discoloration, dead vegetation, excessive
	6.	6. Land Use – opportunity metric	
		Check all that apply Evolution of the	
		Check all that apply. Evaluation of this metric involves a GIS effort with within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (2M). Effective	field adjustment. Consider sources draining to assessment area
		and within the watershed draining to the assessment area (2M). Effective Plain and Piedmont and 30 feet wide in the Mountains.	ershed draining to the assessment area (5M), and within 2 miles
		N/O	riparian buffers are considered to be 50 feet wide in the Coastal
		ZIVI	
		- 50% impervious surfaces with stormwater in	Best Management Practices (BMPs) (land use examples:
		> 30% impervious surfaces without at	ential)
			er BMPs
		음 일 일 기	
		C = C = C = C = C = C = C = C = C = C =	7.5-minute quadrangles)
)		☐H ☐H ☐H ≥20% coverage of pasture without riporior to	ncentrated source of pollutants)
		- 20 /0 COVERAGE OF DASTURE with effective rings	t. ss
		E. Ze vo coverage of anticultural land /required.	-1
		□K □K ≥20% coverage of agricultural land (regularly ≥20% coverage of maintained grass/herb	plowed land) with effective rinarian buffer
		M Silvicultural land with disturbance of 5 has	, serve repaired builty
		Little of no opportunity. Lack of opportunity me	Name of Co. 1
		overbank flow from affecting the assessment a	n By result from hydrologic modifications that prevent drainage or rea
7.	١	. Wetland Acting as Vegetated Buffer - assessment area and it	
	I	Is the assessment area within 50 feet of a stream or other area water 6.4%	IC
		Is the assessment area within 50 feet of a stream or other open water? ("op	en water" does not include man-made ditches or canals)
		Stream width (Stream width is normal flow width [ordinary high water to did width stream width] Stream width (Stream width is normal flow width fordinary high water to did width so find the width width stream width)	ordinary high water). If the act
	•	☐ ≤15-feet wide ☐ > 15-feet wide ☐ Not Applicable	runary riight water)). If the stream is anastomosed, combine
	Ε	□ ≤15-feet wide □> 15-feet wide □Not Applicable □ roots of assessment area vegetation extend into the bank of the adjacen □ Yes □No	
		Yes No	stream/open water?
	IS	Is stream or other open water sheltered or exposed?	
		LIGHTERE - Adjacent open water with width - occo.	egular boat traffic
0	10	Fig. 10 and 10	hoot troff:-
8.	۷۱	Welland/Kiparian Buffer Width - assessment area/wettend to the	
	(V	(WC), and the riparian buffer at the assessment area (RB) (if applicable).	and type at the government
	or	(WC), and the riparian buffer at the assessment area (RB) (if applicable), only be present on one side of the water body. The riparian buffer is me anastomosed system.	Riparian buffer width is measured from the wetland complex
	ar	only be present on one side of the water body. The riparian buffer is me anastomosed system. Make buffer judgment based on dominant landscap removed or disturbed.	easured from the outside banks of the outer shared
			e feature. Record a note if a portion of the huffer has been
		(ii applicable)	, where of the burner has been
		⊠A ⊠A ⊃A ≥100 feet	
		□B □B □B From 80 to < 100 feet □C □C □C From 50 to < 80 feet	
`	H	☐C ☐C From 50 to < 80 feet☐D ☐D ☐D From 40 to < 50 feet	
)		DE DE From 30 to < 40 feet	
		□F □F From 15 to < 30 feet	
		□G □G □G From 5 to < 15 feet	
	- 1 1		

2:		y a	
!	9.	Inundat	tion Duration – assessment area condition metric
		<u>Answer</u>	for assessment area dominant landform.
		∐A ∐B	Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation
		⊠c	Evidence of long-duration inundation (7 to 30 consecutive days or more)
	10.	Indicato	ors of Deposition – assessment area condition metric
C, I			r recent deposition only (no plant growth since deposition)
		⊠A	Sediment deposition is not excessive, but at approximately natural levels
		□B □C	Sediment deposition is excessive, but not overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland.
1	1		Size – wetland type/wetland complex condition metric
	•••		
		OILO OI U	box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the ne wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if
			io, occordinging Doundalies die juilled by jibishing Thirliand rooms of jirhan jandooongs. An absented become
		a bound	ary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column seessment area is clear-cut, select "K" for FW column.
		WT	WC FW (if applicable)
		□A ⊠B	□A □A ≥ 500 acres ☑B ☑B From 100 to < 500 acres
		□c	□C □C From 50 to < 100 acres
		□D □E	□D □D From 25 to < 50 acres □E □E From 10 to < 25 acres
		댦	☐E ☐E From 10 to < 25 acres ☐F ☐F From 5 to < 10 acres
		□G	☐G ☐G From 1 to < 5 acres
		□H □I	☐H ☐H From 0.5 to < 1 acre ☐I ☐I From 0.1 to < 0.5 acre
		□J	□J □J From 0.01 to < 0.1 acre
		□ĸ	□K □K < 0.01 acre
1:	2.	Wetland	Intactness – wetland type condition metric (evaluate for Pocosins only)
		□A	Wetland type is the full extent (≥ 90%) of its natural landscape size
			Wetland type is < 90% of the full extent of its natural landscape size.
13	3. (Connect	ivity to Other Natural Areas – landscape condition metric
		oneck a appropria	ppropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if
()	•	agriountai	te) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and e), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the
		ailastapi	e patch. LC
			□A ≥ 500 acres
			□B From 100 to < 500 acres
			□C From 50 to < 100 acres □D From 10 to < 50 acres
	Ī	ΞĒ	□E < 10 acres
			□F Wetland type has a poor or no connection to other natural habitats
		Check Ye ∃Yes	
	=		□No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) □No Is the assessment area subject to overbank flooding during normal conditions?
14	. Е	Edae Effe	ect – wetland type condition metric
			istance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,
	•	···	" larger roads (2 40-reet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight
	- ::	nam pom	is of the compass. No artificial edge within 150 feet in all directions
	Ē	_B I	No artificial edge within 150 feet in four to seven directions
	Σ	⊠ C /	An artificial edge occurs within 150 feet in more than four directions <u>or</u> assessment area is clear-cut
15.	. V	egetativ	e Composition – assessment area condition metric (skip for marshes and Pine Flat)
	Σ	≰JA \	egetation is close to reference condition in species present and their proportions. Lower strata compaced of appropriate
	Г		pooles, with exolic pidnis dusent of suarse within the assessment area
		-	/egetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or
	-		icamig. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata
	L	7C · /	regetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic
	٠.		species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
1 6.	_	_	e Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
_1]A \]B \	/egetation diversity is high and is composed primarily of native species. /egetation diversity is low or has > 10% cover of exotics.
			/egetation is dominated by exotic species.
	_		

17. Vegetative Structure – assessment area/wetland type condition metric
✓ Vegetation present Evaluate percent coverage of vegetation for marshes only
☐A ≥ 25% coverage of vegetation
B < 25% coverage of vegetation
Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
Structure in airspace above the assessment area (AA) and the wetland type (WT) separatery. AA WT
⊠A
□ □ □ □ □ □ □
 ☑A ☑A Dense shrub layer ☐B ☐B Moderate density shrub layer ☐C ☐C Shrub layer sparse or absent
☐A ☐A Dense herb layer ☐B ☐B Moderate density herb layer ☐C ☐C Herb layer sparse or absent ☐ Vegetation absent
18. Snags – wetland type condition metric A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).
⊠B Not A
19. Diameter Class Distribution – wetland type condition metric
☐A Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees.
20. Large Woody Debris – wetland type condition metric
Include both man-made and natural debris piles. ☐A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). ☑B Not A
21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.
22. Habitat Uniqueness – wetland type condition metric
☐Yes ☐No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
Notes

Wetland Site Name	D-I-WAM01	Date of Assessment	9/7/07	
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience	
Presence of str	essor affecting assessment area (Y/N)	YES		
Notes on Field	Assessment Form (Y/N)	NO		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	NO		
	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	Summary		·	
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	HIGH	
	Sub-surface Storage and Retent	ion Condition	HIGH	
Water Quality	Pathogen Change	Condition	LOW	
		Condition/Opportunity	MEDIUM	
	·	Opportunity Presence		
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/N) YES	
	Physical Change	Condition	LOW	
		Condition/Opportunity	LOW	
		Opportunity Presence (
	Pollution Change	Condition	,x	
		Condition/Opportunity	X	
		Opportunity Presence (
Habitat	Physical Structure	Condition	LOW	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
Function Rating Sum	mary			
Function		Metrics	Rating	
Hydrology	- 1	Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y	//N) YES	
Habitat		Condition	MEDIUM	

Wetland Type Neverine Swamp Forcest Never Neve		Wetland Site Nan		Date	9/7/07
River Basin Specified Section	ĺ				AS, RA, EcoScience
Ves No Precipitation within 48 hrs?		_		Nearest Named Water Body	
Evidence of stressors affecting the sasesament area (may not be within the assessment area)	7			Latitude/Longitude (deci-degrees)	
Please crole and/or make note below if ovidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years), botkevority stressors include, but are not limited to the following. - Hydrological modifications (paramples: diches, dams, beaver dams, dikes, berms, ponds, etc.) - Hydrological modifications (paramples: diches, dams, beaver dams, dikes, berms, ponds, etc.) - Signs of vegetation stress (paramples: wegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) - Signs of vegetation stress (paramples: wegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) - Hebits/plant community alteration (examples: mowing, clean-cutting, exotics, etc.) - Is the assessment area intensively managed? Yes No - Describe effects of stressors that are present. - Free dataseway through modile of welland, Fort Bragg - Regulatory Considerations - Salect all that apply to the assessment area. - Anadornous tish - Foderally protected species or State endangered or threatened species - NCDWC aparian buffer rule in effect - NCDWC aparian buffer rule in effect - Provision of Vater Cullidity best usage classification of SA or supplemental classifications of HQW, ORW, or Trout - Designated NCMHP reference community - NC Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) - N.C. Division of Occastal Management Area of Santomore and Santomore	1				
Describe effects of stressors that are present.		Please circle and/or (for instance, within	make note below if evidence of stressors included to years). Noteworthy stressors included modifications (examples: ditches, day sub-surface discharges into the wear of the year of years of the year of the year of the year of year of year of years of y	ors is apparent. Consider departure from e, but are not limited to the following. ams, beaver dams, dikes, berms, ponds, et land (examples: discharges containing anog lagoons, etc.) mortality, insect damage, disease, storm wing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
Fire road causeway through middle of wetland, Fort Bragg		Describe effects of	stressors that are present.		A MICE OF THE SECTION AND THE
Select all that apply to the assessment area. Andromous fish Foderally protected species or State endangered or threatened species NCDWO riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicy owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Vater Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Trout Designated NCNHP reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Idea (if Idad, heck one of the following boxes) Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal or of the following boxes of the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate the assessment area based on evidence of atteration. So VS A Not severely altered Severely altered Severely altered over most of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical distorbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity (if appropriate), artificial hydrologic alteration) Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Sult). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Outde (see User Manual v1.0 Appendix of the Amage (examples: intensive ditching, fill, sedimentation, channeliz		Fire road causeway t	hrough middle of wetland, Fort Bragg		
What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater		Select all that apply t Anadromou	o the assessment area. is fish rotected species or State endangered c parian buffer rule in effect jacent to or associated stream drains to		
Blackwater Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both		□ N.C. Divisio □ N.C. Divisio □ N.C. Divisio □ Designated	n of Coastal Management Area of Envi in of Water Quality best usage classifica	ronmental Concern (AEC) (including buffe ation of SA or supplemental classifications	er) s of HQW, ORW, or Trout
Is the assessment area on a coastal island?				7.	
Is the assessment area's surface water storage capacity or duration substantially altered by beaver?	1				
Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate the assessment area based on evidence of alteration. GS VS A	1	s the assessment a			aver? Yes No
2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if sub	1.	Check a box in e the assessment area b GS VS ☐A ☐A ☐B ☐B	ach column. Consider alteration to the case on evidence of alteration. Not severely altered Severely altered over most of the asses sedimentation, fire-plow lanes, skidde alteration examples: mechanical dist	ne ground surface (GS) in the assessment applicable (see User Manual v1.0). If a runssment area (ground surface alteration expert tracks, bedding, fill, soil compaction, ourbance, herbicides, salt intrusion lymber.	eference is not applicable, then rate the camples: vehicle tracks, excessive byjour pollutants) (vegetation etructure
Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable. Surf Sub Sub Water storage capacity and duration are not altered. B B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AA > 50% of the wetland type with depressions able to pond water > 2 feet BB SB > 50% of the wetland type with depressions able to pond water 1 to 2 feet Check a Sow of wetland type with depressions able to pond water 3- to 6-inches deep	2		reas diversity (ii appropriate), artificial r	iyurologic alteration)	
☑A ☑A Water storage capacity and duration are not altered. ☐B ☐B ☐B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT ☐A ☐A > 50% of the wetland type with depressions able to pond water > 2 feet ☐B ☐B > 50% of the wetland type with depressions able to pond water 1 to 2 feet ☐C ☐C > 50% of wetland type with depressions able to pond water 3- to 6-inches deep		Check a box in e (Sub). Consider both G) for North Caroli water only, while a applicable.	each column. Consider surface stora oth increase and decrease in hydrology na hydric soils for the zone of influence	ge capacity and duration (Surf) and sub y. Refer to the NRCS Scope and Effect (-surface storage capacity and duration Guide (see User Manual v1.0 Appendix
Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AB AB > 50% of the wetland type with depressions able to pond water > 2 feet BB BB > 50% of the wetland type with depressions able to pond water 1 to 2 feet C C C > 50% of wetland type with depressions able to pond water 6 inches to 1 foot D D D S 50% of wetland type with depressions able to pond water 3- to 6-inches deep		⊠A ⊠A □B □B □C □C	Water storage capacity or duration are Water storage capacity or duration are change) (examples: intensive ditching,	altered, but not substantially (typically, no substantially altered (typically, alteration s fill, sedimentation, channelization, diversi	sufficient to result in vagatation
AA WT AA WT AA Solution Solu	3.	Water Storage/Sur	rface Relief – assessment area/wetla	nd type condition metric	
A ☐ A > 50% of the wetland type with depressions able to pond water > 2 feet ☐ B ☐ B > 50% of the wetland type with depressions able to pond water 1 to 2 feet ☐ C ☐ C > 50% of wetland type with depressions able to pond water 6 inches to 1 foot ☐ D ☐ D > 50% of wetland type with depressions able to pond water 3- to 6-inches deep		Check a box in ea			e wetland type (WT).
)	□A □A 図B 図B □C □C □D □D	50% of the wetland type with depress50% of wetland type with depression50% of wetland type with depression	sions able to pond water 1 to 2 feet s able to pond water 6 inches to 1 foot s able to pond water 3- to 6-inches deep	

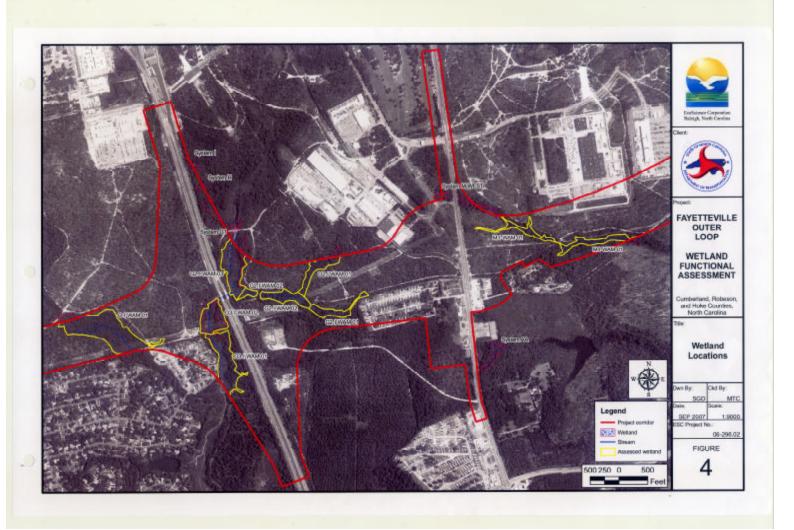
Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make sail observations within the top fool. BLA Surdy sail recinical Committee for Hybric Soils resignal indicators are noted (see mate recent guidance). BLA Surdy sail recommends and provided in the selection of the se		y 4 .₋	Soil Te	xture/Str	ructure -	assessment area condition metric
Seyed mineral soil (#2.9.4) solds. Annexas soil (#0.0.4) inches Soil ribbon x Inich Foil ribbo			Select Nationa ⊠A □B	all that a Il Technic Sandy Predon	apply. Dommisoil	ig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ittee for Hydric Soils regional indicators are noted (use most recent guidance).
No peat or muck presence A, 7, AB, AB, ATD, F1, S1) Peat or muck soil (histosof or histic epipedon) (A1, A2, A3)			□D ⊠E	Gleyed Soil ribl	mineral s bon < 1 ir	soil (F2, S4)
A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)						
Check a box in each column. Consider surface pollutants or discharges (Suf) and sub-surface pollutants or discharges (Sub). Surf Sub A Little or no evidence of pollutants or discharges entering the assessment area Noticeable evidence of pollutants or discharges entering the welfand and stressing, but not overwhelming the restment capacity of the assessment area Noticeable evidence of pollutants or discharges entering the welfand and stressing, but not overwhelming the restment capacity of the assessment area Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area Defended the apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider source draining to be assessment area A subminished the apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider source draining to assessment area A within an elevation and substantial draining to the assessment area (2M). Effective riparian buffers are considered to be 30 feet wide in the Coastal B				A peat or	or muck p muck so	presence (A6, A7, A8, A9, A10, F1, S1) il (histosol or histic epipedon) (A1, A2, A3)
Surf Sub A Little or no evidence of pollutants or discharges entering the subsessment area Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwheiming the restment capacity of the assessment area Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwheiming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation) 6. Land Use – opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstraem watershed (VS), within 5 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Picertonnat and 30 feet wide in the Mountains. Wis SM 2M A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (and use examples: industrial, commercial, and high-density residential) SM 2M A > 30% impervious surfaces without stormwater Best Management Practices (BMPs) (and use examples: industrial, commercial, and high-density residential) SM 3M 2M A > 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces 11 to 30% impervious surfaces 12 SM 2M 2M A > 30% impervious surfaces 13 SM 2M A > 30% impervious surfaces 14 SM 2M A > 30% impervious surfaces 15 SM 2M A A > 30% impervious surfaces 16 SM 2M 2M A > 30% impervious surfaces 17 New adjacent deveraged (pasture without stormwater BMPs 18 SM 2M 2M A > 30% impervious surfaces 19 SM 2M 2M A > 30% impervious surfaces 10 SM 2M		5.	Dischar	ge into V	Wetland -	- opportunity metric
Solid complete widence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area with of the assessment area on Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)			Surf			separation and separation in the array separation, underground storage tank (UST), etc.
Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wettand (water discoloration, dead vegetation, excessive sedimentation) 6. Land Use – opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (ViS), within 5 miles and within the watershed draining to the assessment area (2M). Effectively repartan buffers are considered to be 50 feet wide in the Mountains. Social Plain and Pledmont and 30 feet wide in the Mountains.					Notices	Die evidence of pollutants or discharges entering the wetland and stronging, but not assess to the
6. Land Use - opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within enter upstream watershed (ViS), within 5 miles and within the watershed draining to the assessment area (3M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Pledmont and 30 feet wide in the Mountains. WIS 5M 2M 3M 2M			□c	□с	Noticea potentia	ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and
Check all that apply. Evaluation of this metric involves a CIS effort with field adjustment. Consider sources draining to assessment area within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Mountains. S		6.	Land Us	e – oppo		
and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Mountains.			Check a	ll that ap	ply. Eva	luation of this metric involves a GIS effort with field adjustment.
A			and withi Plain and	n the wat Piedmo	tershed d nt and 30	raining to the assessment area (2M). Effective region of the assessment area (5M), and within 2 miles
C				ΠA	□A	madothal, commercial, and filtin-defisity residential)
Special Spe			□с	⊠c	⊠c	10 to 30% impervious surfaces
G						< 10% impervious surfaces
H			□F	□F	□F	New adjacent development
						Confined animal operations (or other local, concentrated source of pollutants)
	\	,		□ I		≥20% coverage of pasture with effective riparian buffer
			∐ĸ	∐K ∐ı		≥20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly ployed land) with official in the first in t
N			L			220 % Coverage of maintained grass/nern
7. Wetland Acting as Vegetated Buffer – assessment area condition metric Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) Yes						Little or no opportunity. Lack of opportunity may result from hydrologic modifications that are such that
Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine widths of channels/braids for a total stream width.		7. \	Netland A	Acting as	s Vegetat	ed Buffer – assessment area condition metric
Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine widths of channels/braids for a total stream width.		ı	s the asse ا	essment⊹ ⊠Yes	area with □No	in 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
Select wide > 15-feet wide Not Applicable		5	Stream wi	dth (Stre	am width	is normal flow width fordinary high water to ordinary high water to ordinary high water to
Is stream or other open water sheltered or exposed? Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic. Exposed – adjacent open water with width ≥2500 feet or regular boat traffic. 8. Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been WT WC RB (if applicable) MA MA MA ≥100 feet B B B From 80 to < 100 feet C C C From 50 to < 80 feet D D D From 40 to < 50 feet From 30 to < 40 feet From 15 to < 30 feet G G G From 5 to < 15 feet				⊠ ≤15-fe	et wide	☐> 15-feet wide ☐Not Applicable
Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic. Exposed – adjacent open water with width ≥2500 feet or regular boat traffic. 8. Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been with the control of the buffer has			L	<u> </u>		
8. Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been WT WC RB (if applicable) A A A ≥100 feet B B B From 80 to < 100 feet C C C From 50 to < 80 feet D D D From 40 to < 50 feet F F F From 15 to < 30 feet G G G From 5 to < 15 feet		l:	0	⊠Shelter	ed – adja	cent open water with width < 2500 feet and no regular boot traffic
Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been with the provided or disturbed. WT WC RB (if applicable) A A A ≥100 feet B B B From 80 to < 100 feet C C C From 50 to < 80 feet D D D D From 40 to < 50 feet F F F From 15 to < 30 feet G G G From 5 to < 15 feet	8	3. V	Vetland/R	Riparian I	Buffer W	idth – assessment area/wetland type/wetland complex metric
WT WC RB (if applicable) □A □A ≥100 feet □B □B From 80 to < 100 feet □C □C From 50 to < 80 feet □D □D □D From 40 to < 50 feet □E □E □E From 30 to < 40 feet □F □F From 15 to < 30 feet □G □G From 5 to < 15 feet		(\ 0	Neck a to NC), and nly be pr	the ripar esent on	a ch colu r ian buffer one side	mn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex r at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need
□ A □ A ≥ 100 feet □ B □ B From 80 to < 100 feet □ C □ C From 50 to < 80 feet □ D □ D From 40 to < 50 feet □ E □ E From 30 to < 40 feet □ F □ F From 15 to < 30 feet □ G □ G From 5 to < 15 feet						
□ C □ C From 50 to < 80 feet □ D □ D From 40 to < 50 feet □ E □ E From 30 to < 40 feet □ F □ F From 15 to < 30 feet □ G □ G From 5 to < 15 feet]A [<u> </u>	⊠A	≥100 feet
□D □D From 40 to < 50 feet □E □E From 30 to < 40 feet □F □F From 15 to < 30 feet □G □G From 5 to < 15 feet						
☐F ☐F From 15 to < 30 feet ☐G ☐G From 5 to < 15 feet]D []D [_D	From 40 to < 50 feet
☐G	J	F	JE []F [
TH TH Stept]G []G [□G :	From 5 to < 15 feet

ا مورا	9.	มndation Duration – assessment area condition metric
		nswer for assessment area dominant landform. A Evidence of short-duration inundation (< 7 consecutive days)
	ĺ	IB Evidence of saturation, without evidence of inundation
4		C Evidence of long-duration inundation (7 to 30 consecutive days or more)
		dicators of Deposition – assessment area condition metric posider recent deposition only (no plant growth since deposition).
\ /	Ĺ	A Sediment deposition is not excessive, but at approximately natural levels
		B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland.
1	1. V	etland Size – wetland type/wetland complex condition metric
	(neck a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three appears of the victional area, the
	3	te of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if plicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms
	0	poundary in textends across the entire width of the floodblain. Additionally, other wetland types are considered boundaries for column
	٧	- · · · · · · · · · · · · · · · · · · ·
		A
		C □C □C From 50 to < 100 acres
		E □E □E From 10 to < 25 acres
		H
		K □K < 0.01 acre
12	2. W	tland Intactness – wetland type condition metric (evaluate for Pocosins only)
	E	
13		nnectivity to Other Natural Areas – landscape condition metric
	C	eck appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if
\bigcirc	aį	propriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and iculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the discape patch.
	\boxtimes	A
,		
		D From 10 to < 50 acres
		eck Yes or No.
	\boxtimes	Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?
14		e Effect – wetland type condition metric
	Es	mate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,
	1116	lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight points of the compass.
		No artificial edge within 150 feet in four to seven directions
		An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Ve □	etative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		species, with exotic plants absent or sparse within the assessment area
	\boxtimes	Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or
		oleding. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata
		Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Ve	etative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
.)		Vegetation diversity is low or has > 10% cover of exotics. Vegetation is dominated by exotic species.

y 17.	Vegetative Structure – assessment area/wetland type condition metric
	∇egetation present
	Evaluate percent coverage of vegetation for marshes only
	□A ≥25% coverage of vegetation
	B < 25% coverage of vegetation
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
	□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □C □C Canopy sparse or absent
	□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
	□A □A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent
	 ☑A ☑B ☐B ☐C ☐C ☐C Herb layer sparse or absent ☐ Vegetation absent
40	
18.	Snags – wetland type condition metric
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A
	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
	present. Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.
	Most canopy trees are < 6-inches DBH or no trees.
20.	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles.
	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape etablish)
	EZP NOLY
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
•	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Bettersed
i	The solid writte areas indicate open water.
22 1	Habitat Uniqueness , westend time condition was the
	Habitat Uniqueness – wetland type condition metric S No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UNAL) 27
∐Ye	Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
Notes	

()	

Wetland Site Name	L-I-WAM01	Date of Assessment 9	/7/07
Wetland Type	Riverine Swamp Forest		77/07
		- A	S, RA, EcoScience
Presence of str	essor affecting assessment area (Y/N)	YES	
Notes on Field	Assessment Form (Y/N)	NO	
	gulatory considerations (Y/N)	YES	
	nsively managed (Y/N)	NO NO	
	e a high-quality riverine wetland (Y/N)		
Sub-function Rating			
Function	Sub-function	Metrics	
Hydrology	Surface Storage and Retention	Condition	Rating
	Sub-surface Storage and Retention		HIGH
Water Quality	Pathogen Change	Condition	HIGH
	5 0-		LOW
		Condition/Opportunity	MEDIUM
	Particulate Change	Opportunity Presence (Y/N Condition	
			HIGH
		Condition/Opportunity	HIGH
	Soluble Change	Opportunity Presence (Y/N	YES
		Condition	HIGH
		Condition/Opportunity	HIGH
	Physical Change	Opportunity Presence (Y/N	YES
	, crain change	Condition	HIGH
		Condition/Opportunity	HIGH
	Pollution Change	Opportunity Presence (Y/N)	NO
	· onation onlinge	Condition	X
		Condition/Opportunity	X
Habitat	Physical Structure	Opportunity Presence (Y/N)	X
	Landscape Patch Structure	Condition	MEDIUM
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	MEDIUM
		Condition	NO
Function Rating Summ	nary		
unction		Metrics	Rating
Hydrology	-	Condition	HIGH
Vater Quality		Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
labitat		Condition	HIGH





÷	- **			9/7/07	
		- A L MANAGO	Date	AS, RA, EcoScience	
Γ	Wetland Site Name	M-I-WAM01	Assessor Name/Organization	Bonnie Doone Lake	
- 1	Wetland Type	Headwater Wetland	Nearest Named Water Body		
1	Level III Ecoregion	Southeastern Plains	USGS 8-Digit Catalogue Unit	03030004 35.114734, -78.956196	
	River Basin	Cape Fear	Latitude/Longitude (deci-degrees)	35.114734, -76.930190	
	Evidence of stressors Please circle and/or may (for instance, within 10 Hydrological Surface and septic tanks, Signs of vege Habitat/plant Is the assessment ar Describe effects of s Road adjacent to wetle Regulatory Consider Select all that apply to	s affecting the assessment area ake note below if evidence of stre years). Noteworthy stressors includifications (examples: ditches, sub-surface discharges into the underground storage tanks (USTs etation stress (examples: vegetatic community alteration (examples: rea intensively managed? tressors that are present. and, vines and shrubs filling in from the assessment area.	(may not be within the assessment area ssors is apparent. Consider departure from tude, but are not limited to the following. dams, beaver dams, dikes, berms, ponds, wetland (examples: discharges containings), hog lagoons, etc.) on mortality, insect damage, disease, storm mowing, clear-cutting, exotics, etc.) Yes No m available light, Fort Bragg	etc.) obvious pollutants, presence of nearby	
	NCDWQ rip Wetland adj Publicly owl	Federally protected species of State changes of NCDWQ riparian buffer rule in effect NCDWQ riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Trout			
			wetland, if any? (Check all that apply)		
	Blackwater Brownwater Brownwater Under Glowing boxes Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No				
	Check a box in	area. Compare to reference wetl a based on evidence of alteration.	and if applicable (see User Manual v1.0).	issment area and vegetation structure (VS) in If a reference is not applicable, then rate the tion examples: vehicle tracks, excessive	
	∐в ∏в	alteration examples: mechani less diversity [if appropriate], a	ical disturbance, herbicides, salt intrusion rtificial hydrologic alteration)	[where appropriate], exotic species, g. a	
	2. Surface and Su	ub-Surface Storage Capacity and	d Duration – assessment area condition	and sub-surface storage capacity and duration	
Check a box in each column. Consider surface storage capacity at the NRCS Scope and Effect Guide (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (Sub). Consider both Scope and Effect Guide (Sub). A ditch ≤1 foot decrease in hydrology. Refer to the NRCS Scope and Effect Guide (Sub). A ditch ≤1 foot decrease in hydrology. Refer to the NRCS Scope and Effect Guide (Sub). Consider both Scope and Effect Guide (Sub). Consider both Scope and Effect Guide (Sub). Consider both Scope and Effect Guide (Sub). Consider both Scope and Effect Guide (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (Sub). Consider both increase and decrease in hydrology. A dischedit both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface and sub-surface water. Consider both surface water water. Consider both surface water water. Consider both surface water wat				Effect Guide (see User Manual VI.0 Appellar	
	Surf Sub ⊠A ⊠A □B □B □C □C	Water storage capacity of dur- change) (examples: intensive dams, stream incision, sewer	ation are substantially altered (typically, altered in a substantially altered (typically, altered in a substantially altered in a substantially altered in a substantially altered in a substantially altered in a substantial in	, diversion, man-made bernis, beaver	
	66====	o/Surface Relief – assessment a	rea/wetland type condition metric opriate storage for the assessment area (AA)	and the wetland type (WT).	
	Water Storage	3/Duridce Keller - 435555the annre	opriate storage for the assessment area (AA	y and the worlding type ()	
	Check a box i	in each column. Select the apple	ppriore 2 foot		
	AA WT □A □A	500/ of the wetland type Wi	ith depressions able to pond water > 2 feet ith depressions able to pond water 1 to 2 fe depressions able to pond water 6 inches to depressions able to pond water 3- to 6-inche	et	

4,,	Soil, Texture/Struselect all that a	ucture – ass	essment area condition metric oil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. e for Hydric Soils regional indicators are noted (use most recent guidance).				
	□ A Sandy s □ B Predom □ C Predom □ D Gleyed □ E Soil rib □ F Soil rib □ G No pea □ H A peat □ I Peat or	soil ninantly chara ninantly chara mineral soil bon < 1 inch bon ≥1 inch at or muck pres r muck soil (h	esterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) esterized by other, mineral soil (no mottling) (F2, S4) esence esence (A6, A7, A8, A9, A10, F1, S1) esterized by other, mineral soil (no mottling) esence of the sence (A6, A7, A8, A9, A10, F1, S1) esterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) esterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) esterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) esterized by other, mineral soil (no mottling)				
5.	5. Discharge into Wetland – opportunity metric						
Examples of sub-surface discharges include presented structures, and the surface discharges include presented structures are surface and the surface discharges and the surface discharges are surface and the surface are			charges include presented of meanly				
	Surf Sub ⊠A ⊠A □B □B □C □C	Noticeable treatment	o evidence of pollutants or discharges entering the assessment area e evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the capacity of the assessment area e evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and e evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and yoverwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive ation)				
6.	Land Use – op	portunity me	etric Justine of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area (5M), and within 2 miles and (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 12 miles and (WS), within 5 miles and within 12 miles and (WS).				
	within entire up	stream water vatershed dra nont and 30 f	aining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the obastan- feet wide in the Mountains.				
	WS 5M □A □A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:				
	□B □B ⊠C ⊠C	□в ⊠c	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces				
		□E □E	< 10% impervious surfaces Old urban development (pink areas on USGS 7.5-minute quadrangles)				
_	∏F □F	□F □G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)				
	G G GH GH	□H □I	≥20% coverage of pasture without ripartian buffer				
		□J □K	≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer >20% coverage of agricultural land (regularly plowed land) with effective riparian buffer				
		□L	≥20% coverage of maintained grass/hero				
	□M □M	□N	Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.				
7	. Wetland Actin	ng as Vegeta					
	to the access	nent area witl	hin 50 feet of a stream or other open water? (open water 3000 me and a stream or other open water?				
	Stream width	(Stream wid	If No, Skip to next metric th is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine for a total stream width.				
	Do roots of as	15-feet wide	Solution State		⊠Y	es ∐No	the description of the supposed 2
	⊠s	heltered – adi	acent open water with width ≥2500 feet or regular boat traffic.				
	8. Wetland/Ripa	arian Buffer	Width – assessment area/wetland type/wetland complex metric Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex for at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need for at the assessment area (RB) (if applicable).				
	(M/C) and the	e riparian bu ent on one s I system. Ma	foliumn. Select the appropriate width for the wetland type at the assessment area (VV), the properties of bank and need at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need fifer at the assessment area (RB) (if applicable). Riparian buffer with the outside banks of the outer channels of an side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been ake buffer judgment based on dominant landscape feature.				
	WT WC	; <u>RB</u> (if a	applicable) ≥100 feet				
	⊠A ⊠A	в □в	From 80 to < 100 feet From 50 to < 80 feet				
		D □D	From 40 to < 50 feet From 30 to < 40 feet				
		F □F	From 15 to < 30 feet				
	G DH D	G ∐G	From 5 to < 15 feet < 5 feet				

_	9.	Inundation Duration – assessment area condition metric				
•		nswer for assessment area dominant landform.				
		☐A Evidence of short-duration inundation (< 7 consecutive days) ☐ Find the second contraction without evidence of inundation.				
		B Evidence of saturation, without evidence of inundation C Evidence of long-duration inundation (7 to 30 consecutive days or more)				
		ndicators of Deposition – assessment area condition metric				
		Consider recent deposition – assessment area condition metric				
1		□A Sediment deposition is not excessive, but at approximately natural levels.				
		⊠B Sediment deposition is excessive, but not overwhelming the wetland.				
		Sediment deposition is excessive and is overwhelming the wetland.				
	11.	Wetland Size – wetland type/wetland complex condition metric Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the				
		size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A So00 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D D From 25 to < 50 acres E E From 10 to < 25 acres F F F From 5 to < 10 acres G G G G From 1 to < 5 acres H H H H From 0.5 to < 1 acre J J J From 0.01 to < 0.1 acre				
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)				
		□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.				
	12	Connectivity to Other Natural Areas – landscape condition metric				
)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC				
		⊠A □A ≥500 acres				
		□B □B From 100 to < 500 acres □C □C From 50 to < 100 acres				
		□C □C From 50 to < 100 acres □D □D From 10 to < 50 acres				
		□E □E < 10 acres				
		F F Wetland type has a poor or no connection to other natural habitats				
		Check Yes or No. ☐ Yes ☐ No ☐ Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐ Yes ☐ No ☐ Is the assessment area subject to overbank flooding during normal conditions?				
	14.	Edge Effect – wetland type condition metric				
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight				
		main points of the compass.				
		A No artificial edge within 150 feet in all directions				
		□ No artificial edge within 150 feet in four to seven directions □ An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut				
	45	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)				
	15.	A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate				
		species with exotic plants absent or sparse within the assessment area.				
		Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic				
		species or composed of planted stands of non-characteristic species of mappropriately composed of a single operation				
	16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)				
		Vegetation diversity is high and is composed primarily of native species.				
)	☐B Vegetation diversity is high active and the second sec				

•	. 1	17.	Vegetative Structure – assessment area/wetland type condition metric							
			 ✓ Vegetation present Evaluate percent coverage of vegetation for marshes only 							
			☐A ≥25% coverage of vegetation							
			☐B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider							
)		structure in airspace above the assessment area (AA) and the wetland type (WT) separately.							
Χ	/		AA WT □A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent							
			□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent							
			 ☑A ☑B ☐B ☐C ☐C Shrub layer sparse or absent 							
			☐A ☐A Dense herb layer ☐B ☐B Moderate density herb layer							
			☐C ☐C Herb layer sparse or absent ☐ Vegetation absent							
		18.	Snags – wetland type condition metric							
			Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A							
	Diameter Class Distribution – wetland type condition metric									
			Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.							
			 ☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees. 							
	:	20.	Large Woody Debris – wetland type condition metric							
			Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). Not A							
):	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)							
•			Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.							
22. Habitat Uniqueness – wetland type condition metric ☐Yes ☑No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (Unique Wetlands).										
						Notes				

Wetland Site Name	M-I-WAM01	Date of Assessment	9/7/07	
Wetland Type	Headwater Wetland	Assessor Name/Organization	AS, RA, EcoScience	
		•		
Presence of str	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	NO		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	NO		
	e a high-quality riverine wetland (Y/N)			
Sub-function Rating		Metrics	Rating	
Function	Sub-function		HIGH	
Hydrology	Surface Storage and Retention		HIGH	
	Sub-surface Storage and Rete		LOW	
Water Quality	Pathogen Change	Condition	MEDIUM	
		Condition/Opportunity		
	Deutinolate Ohama	Opportunity Presence Condition	MEDIUM	
	Particulate Change	Condition/Opportunity	X	
		Opportunity Presence		
	Oal Ma Obarra	Condition	HIGH	
	Soluble Change		HIGH	
		Condition/Opportunity Opportunity Presence		
	Physical Change	Condition	HIGH	
	Physical Change	Condition/Opportunity	HIGH	
		Opportunity Presence		
	Pollution Change	Condition	X	
	Tondion Onlings	Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
Habitat	Physical Structure	Condition	HIGH	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	MEDIUM	
	Uniqueness	Condition	NO	
F (1 D (1) 0)				
Function Rating Su	mmary	Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
aro. adding		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
Habitat		Condition	HIGH	
Habitat			A STATE OF THE STA	

Overall Wetland Rating HIGH

Г	Wetland Site Name	G2-I-WAM01	Date	9/7/07		
	Wetland Type		Assessor Name/Organization	AS, RA, EcoScience		
İ	Level III Ecoregion	Southeastern Plains	Nearest Named Water Body USGS 8-Digit Catalogue Unit	Big Branch 03030004		
	River Basin	Cape Fear Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.112232, -78.970543		
, -	☐ Yes 🗵 No					
	Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.) Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)					
				THE RESERVE OF THE PROPERTY OF		
	Describe effects of stressors that are present. Fire Road Cuts through wetland, Fort Bragg					
	Regulatory Considera	tions				
	Select all that apply to the	he assessment area.				
	Anadromous f Federally prote	ïsh ected species or State endangerec	or threatened species			
	NCDWQ ripar	ian buffer rule in effect				
		ent to or associated stream drains	to a Primary Nursery Area			
	N.C. Division	of Coastal Management Area of Er	nvironmental Concern (AEC) (including buf ication of SA or supplemental classification	fer) ns of HQW, ORW, or Trout		
İ		tream is associated with the wet	land, if any? (Check all that apply)			
			, , ,			
1	☐ Brownwater		D L Doth			
١		check one of the following boxes)	Lunar Wind Both			
1	Is the assessment are	a on a coastal island? 🔲 Yes	⊠ No			
	Is the assessment are	a's surface water storage capac	ity or duration substantially altered by b	peaver?		
_	0 1 0 10 0	andition Negatation Condition	peensement area condition metric			
1	Ground Surface Condition/Vegetation Condition – assessment area condition metric Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate the assessment area based on evidence of alteration. GS VS					
	ВВВ	edimentation fire-plow lanes, ski	disturbance, herbicides, salt intrusion [wh	examples: vehicle tracks, excessive obvious pollutants) (vegetation structure ere appropriate], exotic species, grazing,		
2	2. Surface and Sub-S	urface Storage Capacity and Du	ration – assessment area condition met	ric		
	Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.					
		Nater storage capacity or duration change) (examples: intensive ditch dams, stream incision, sewer lines,	are altered, but not substantially (typically, are substantially altered (typically, alteration, soil compaction).	on sufficient to result in vegetation		
	ا 3. Water Storage/Sui	rface Relief – assessment area/w	etland type condition metric	d the wetland type (WT)		
	Check a box in ea	ch column. Select the appropriate	e storage for the assessment area (AA) an	u tile wettallu type (** +).		
~	AA WT □A □A □B □B	> 50% of the wetland type with de > 50% of the wetland type with de	oressions able to pond water > 2 feet oressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foo sions able to pond water 3- to 6-inches de	t		

· 4	Soil Texture/Structure – assessment area condition metric
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil
	Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) Predominantly characterized by other, mineral soil (no mottling)
	□D Gleyed mineral soil (F2, S4) ⊠E Soil ribbon < 1 inch
\ /	☐F Soil ribbon ≥1 inch
	☐ No peat or muck presence ☐ A peat or muck presence (A6, A7, A8, A9, A10, F1, S1) ☐ A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)
_	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)
5.	Discharge into Wetland – opportunity metric Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).
	Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.
	☐A Little or no evidence of pollutants or discharges entering the assessment area
	treatment capacity of the assessment area
	Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)
6.	Land Use – opportunity metric
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.
	WS 5M 2M □A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
	 □B □B > 30% impervious surfaces without stormwater BMPs □C □C □C 10 to 30% impervious surfaces
	D D < 10% impervious surfaces
	F F New adjacent development
	□G □G Confined animal operations (or other local, concentrated source of pollutants) □H □H □H ≥20% coverage of pasture without riparian buffer
\ /	□I □I ≥20% coverage of pasture with effective riparian buffer □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer
	 □K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer □L □L ≥20% coverage of maintained grass/herb
	M M Silvicultural land with disturbance < 5 years old
	N N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage of overbank flow from affecting the assessment area.
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) Yes No If No, Skip to next metric
	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine widths of channels/braids for a total stream width.
	□≤15-feet wide □> 15-feet wide □Not Applicable Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water?
	□Yes □No
	Is stream or other open water sheltered or exposed? ☐Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. ☐Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed.
	WT WC RB (if applicable)
	⊠A ⊠A □A ≥100 feet □B □B □B From 80 to < 100 feet
	□C □C From 50 to < 80 feet □D □D □D From 40 to < 50 feet
()	□E □E From 30 to < 40 feet
	☐G ☐G From 5 to < 15 feet
	□H □H < 5 feet

s 17	'. Vegetative Structure – assessment area/wetland type condition metric
	✓ Vegetation present
	Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation
	B < 25% coverage of vegetation
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
)	structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
,	AA WT ☑A ☑A Canopy closed, or nearly closed, with natural gaps associated with natural processes ☐B ☐B Canopy present, but opened more than natural gaps ☐C ☐C Canopy sparse or absent
	☐A☐B☐BModerate density shrub layer☐C☐CShrub layer sparse or absent
	☐ Vegetation absent
18	3. Snags – wetland type condition metric
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).□B Not A
19	6 40 to the ODIN
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
	 ☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees.
20). Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles. ☑A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). ☑B Not A
) 21	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.
	2. Habitat Uniqueness – wetland type condition metric]Yes
Some	
No	otes

Wetland Site Name G2-I-WAM01		Date of Assessment 9/7/07		
Wetland Type	Headwater Wetland A	Assessor Name/Organization	AS, RA,	EcoScience
	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	NO ·		
Presence of re	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	NO		
Wetland may b	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	g Summary			
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition		HIGH
	Sub-surface Storage and Retent	tion Condition		HIGH
Water Quality	Pathogen Change	Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
	Particulate Change	Condition		HIGH
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
	Soluble Change	Condition		MEDIUM
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
	Physical Change	Condition		LOW
		Condition/Opportunity		LOW
		Opportunity Presence	(Y/N)	YES
	Pollution Change	Condition		- X
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		HIGH
	Vegetation Composition	Condition		MEDIUM
	Uniqueness	Condition		NO
Function Rating Sur	mmary			
Function		Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
		Condition/Opportunity		HIGH
•		Opportunity Presence	(Y/N)	YES
Habitat		Condition		HIGH
Overall Wetland	Rating HIGH			

	Wetland Site Name Wetland Type	G2-I-WAM02 Headwater Wetland	Date Assessor Name/Organization	9/7/07 AS, RA EcoScience
İ	Level III Ecoregion		Nearest Named Water Body	Big Branch
	River Basin	Cape Fear	USGS 8-Digit Catalogue Unit	
1	☐ Yes ⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.112068, -78.972705
	Please circle and/or ma (for instance, within 10 y	ke note below if evidence of stress years). Noteworthy stressors includ nodifications (examples: ditches, dasub-surface discharges into the we underground storage tanks (USTs), lation stress (examples: vegetation community alteration (examples: mo	mortality, insect damage, disease, storm owing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby
		a intensively managed? 🔲 Yes	S No	
		ressors that are present. ts through wetland, Fort Bragg		
		he assessment area. iish ected species or State endangered	or threatened species	
	☐ Wetland adjac☒ Publicly owned	ian buffer rule in effect ent to or associated stream drains t d property of Coastal Management Area of Env	o a Primary Nursery Area vironmental Concern (AEC) (including buf	fer)
	□ N.C. Division or a second or a	of Water Quality best usage classific CNHP reference community	cation of SA or supplemental classification	ns of HQW, ORW, or Trout
		tream is associated with the wetla	and, if any? (Check all that apply)	
	☐ Brownwater ☐ Tidal (if tidal, o	check one of the following boxes)	Lunar Wind Both	
1	Is the assessment area	a on a coastal island? 🔲 Yes	⊠ No	
	Is the assessment area	a's surface water storage capacit	y or duration substantially altered by b	eaver?
	Check a box in each the assessment area	ondition/Vegetation Condition – as ch column. Consider alteration to a. Compare to reference wetland if sed on evidence of alteration.	the ground surface (GS) in the assessm	ent area and vegetation structure (VS) in reference is not applicable, then rate the
	⊠A ⊠A N ∏B ∏B S s a	edimentation, fire-plow lanes, skide	sturbance, herbicides, salt intrusion [who	examples: vehicle tracks, excessive obvious pollutants) (vegetation structure ere appropriate], exotic species, grazing,
:			ation – assessment area condition met	
	(Sub). Consider bot G) for North Carolina water only, while a applicable.	th increase and decrease in hydrology in a hydrology in hydric soils for the zone of influer	ogy. Refer to the NRCS Scope and Effect nce of ditches in hydric soils. A ditch ≤1	ub-surface storage capacity and duration of Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface water. Consider tidal flooding regime, if
	□B □B V □C □C V	Vater storage capacity or duration a	re altered, but not substantially (typically, re substantially altered (typically, alteratio ng, fill, sedimentation, channelization, dive	n sufficient to result in vegetation
	3. Water Storage/Surf	face Relief – assessment area/we	tland type condition metric	A LANCE ANT
	Check a box in eac	ch column. Select the appropriate s	storage for the assessment area (AA) and	the wetland type (W1).
)	B B >	50% of wetland type with depressi	essions able to pond water 1 to 2 feet ons able to pond water 6 inches to 1 foot ons able to pond water 3- to 6-inches dec	ep

	National Technic		ig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ittee for Hydric Soils regional indicators are noted (use most recent guidance).
			characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)
			haracterized by other, mineral soil (no mottling) soil (F2, S4)
	⊠E Soil rib	bon < 1 ir	nch '
		obon ≥1 in at or muck	nch s presence
		or muck	presence (A6, A7, A8, A9, A10, F1, S1)
_			il (histosol or histic epipedon) (A1, A2, A3)
5.	-		 opportunity metric column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).
	Examples of sub		discharges include presence of nearby septic tank, underground storage tank (UST), etc.
	Surf Sub ⊠A ⊠A		r no evidence of pollutants or discharges entering the assessment area
	□в □в		able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ent capacity of the assessment area
	□c □c	Notice	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and
			ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive entation)
6.	Land Use – opp	ortunity	metric
			raluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area
			tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal
			0 feet wide in the Mountains.
	□A □A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:
	□в □в	□в	industrial, commercial, and high-density residential) > 30% impervious surfaces without stormwater BMPs
	⊠c ⊠c	⊠c	10 to 30% impervious surfaces
	□D □D □E	□D □E	< 10% impervious surfaces Old urban development (pink areas on USGS 7.5-minute quadrangles)
	□F □F	□F	New adjacent development
	□G □G □H □H	□G □H	Confined animal operations (or other local, concentrated source of pollutants) ≥20% coverage of pasture without riparian buffer
			≥20% coverage of pasture with effective riparian buffer
	□J □J	□J □K	≥20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
			≥20% coverage of maintained grass/herb
	□M □M □N □N	□M □N	Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or
			overbank flow from affecting the assessment area.
7.	-		tated Buffer – assessment area condition metric thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
	⊠Yes	□No	If No, Skip to next metric
	,		of the stream is an astomosed, combine for a total stream width.
	⊠ ≤15	-feet wide	e
		ssment ar ∐No	rea vegetation extend into the bank of the adjacent stream/open water?
			ater sheltered or exposed? djacent open water with width < 2500 feet and no regular boat traffic.
			jacent open water with width ≥2500 feet <u>and</u> no regular boat traffic.
8.	•		Width – assessment area/wetland type/wetland complex metric
			olumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex ffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need
	only be present	on one s	side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an
	removed or distu		ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	WT WC	RB (if a	applicable)
	□A □A □B □B	⊠a ⊟B	≥100 feet From 80 to < 100 feet
	⊠c ⊠c	□c	From 50 to < 80 feet
		□D □E	From 40 to < 50 feet From 30 to < 40 feet
x , 7	□F □F	□F	From 15 to < 30 feet
	□G □G □H □H	□G □H	From 5 to < 15 feet < 5 feet

49 SoilaTexture/Structure – assessment area condition metric

g.	Inundation Duration – assessment area condition metric
	Answer for assessment area dominant landform. \[\text{A} \text{ Evidence of short-duration inundation (< 7 consecutive days)} \] \[\text{B} \text{ Evidence of saturation, without evidence of inundation} \] \[\text{C} \text{ Evidence of long-duration inundation (7 to 30 consecutive days or more)} \]
10.	Indicators of Deposition – assessment area condition metric
)	Consider recent deposition only (no plant growth since deposition). \[\begin{align*} \text{Sediment deposition is not excessive, but at approximately natural levels.} \] \[\begin{align*}
11.	Wetland Size – wetland type/wetland complex condition metric
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A S 500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D D From 25 to < 50 acres F From 10 to < 25 acres F F F F From 5 to < 10 acres G G G G G From 1 to < 5 acres H H H H From 0.5 to < 1 acre I I I From 0.01 to < 0.5 acre J J J J From 0.01 to < 0.1 acre K K K K K K < 0.01 acre
12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
	 □A Wetland type is the full extent (≥90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size.
13.	Connectivity to Other Natural Areas – landscape condition metric
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 10 to < 50 acres E E < 10 acres F Wetland type has a poor or no connection to other natural habitats
	Check Yes or No.
	 ☐Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?
14.	Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	 ☑A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. ☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ☐C Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	□A Vegetation diversity is high and is composed primarily of native species.
)	B Vegetation diversity is low or has > 10% cover of exotics. C Vegetation is dominated by exotic species.

	74/.	vegetative Structure – assessment area/wetland type condition metric
		✓ Vegetation present ✓ Vegetation
		Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation
		☐B < 25% coverage of vegetation
_		Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	1	structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
		AA WT □A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes
		□ A Canopy closed, or hearly closed, with readilar gaps associated with readilar processes □ B □ Canopy present, but opened more than natural gaps
		□C □C Canopy sparse or absent
		□A □A Dense mid-story/sapling layer
		C C Mid-story/sapling layer sparse or absent
		□A □A Dense shrub layer □B □B Moderate density shrub layer
		□C □C Shrub layer sparse or absent
		□A □A Dense herb layer
		⊠B ⊠B Moderate density herb layer
		☐C ☐C Herb layer sparse or absent
		☐ Vegetation absent
	18.	Snags – wetland type condition metric
		△A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).□B Not A
	40	
		Diameter Class Distribution – wetland type condition metric A Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
		Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.
		C Most canopy trees are < 6-inches DBH or no trees.
		Large Woody Debris – wetland type condition metric
		Include both man-made and natural debris piles.
		△A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).□B Not A
	24	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
.)		Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
		areas indicate vegetated areas, while solid white areas indicate open water.
	22.	Habitat Uniqueness – wetland type condition metric
	□Y(es No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
	07500000.00000	
	Note	s

Wetland Site Name	G2-I-WAM02	Date of Assessment	9/7/07
Wetland Type	Headwater Wetland	Assessor Name/Organization	AS, RA EcoScience
Presence of str	essor affecting assessment area (Y/N)	YES	
	Assessment Form (Y/N)	NO	
Presence of re	gulatory considerations (Y/N)	YES	
Wetland is inte	nsively managed (Y/N)	NO	
Wetland may b	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	a Summary		
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	HIGH
	Sub-surface Storage and Reter	ntion Condition	HIGH
Water Quality	Pathogen Change	Condition	LOW
		Condition/Opportunity	MEDIUM
		Opportunity Presence	(Y/N) YES
	Particulate Change	Condition	HIGH
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
Habitat	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
Function Rating Sui	mmarv		
Function	,	Metrics	Rating
Hydrology		Condition	HIGH
Water Quality		Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
Habitat		Condition	HIGH

Overall Wetland Rating HIGH

	Wetland Site Name		Date	9/7/07
	Wetland Type		Assessor Name/Organization	EcoScience
	•	Southeastern Plains	Nearest Named Water Body	
y .		Cape Fear Precipitation within 48 hrs?	USGS 8-Digit Catalogue Unit	
	☐ Yes ⊠ No	Frecipitation within 46 ms?	Latitude/Longitude (deci-degrees)	35.113715, -78.974279
Ple (fc	ease circle and/or nor instance, within 10 Hydrological Surface and septic tanks Signs of veg Habitat/plan	nake note below if evidence of stress years). Noteworthy stressors inclumedifications (examples: ditches, disub-surface discharges into the wounderground storage tanks (USTs),	nortality, insect damage, disease, storm owing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby
		tressors that are present. n wetland, beaver impacted, Fort Bra	99	
	Anadromous Federally pro NCDWQ rips Wetland adja Publicly own N.C. Division N.C. Division	the assessment area. If ish Detected species or State endangered arian buffer rule in effect acent to or associated stream drains ed property To Goastal Management Area of En	·	
	Blackwater Brownwater Tidal (if tidal	stream is associated with the wet check one of the following boxes) ea on a coastal island?	and, if any? (Check all that apply) Lunar	
ls	the assessment ar	ea's surface water storage capaci	ry or duration substantially altered by b	eaver? 🛛 Yes 🗌 No
	Check a box in ethe assessment area because SS VS AA AA BB BB	ea. Compare to reference wetland in ased on evidence of alteration. Not severely altered Severely altered over most of the assedimentation, fire-plow lanes, skid alteration examples: mechanical diless diversity [if appropriate], artificial	the ground surface (GS) in the assessm fapplicable (see User Manual v1.0). If a sessment area (ground surface alteration der tracks, bedding, fill, soil compaction, isturbance, herbicides, salt intrusion [whe I hydrologic alteration)	examples: vehicle tracks, excessive obvious pollutants) (vegetation structure ere appropriate], exotic species, grazing,
	Check a box in e (Sub). Consider be G) for North Caroli water only, while applicable. Surf Sub A A A B B B C C	ach column. Consider surface stooth increase and decrease in hydroken hydric soils for the zone of influence a ditch > 1 foot deep is expected. Water storage capacity and duration water storage capacity or duration a Water storage capacity or duration a	re altered, but not substantially (typically, re substantially altered (typically, alteration ng, fill, sedimentation, channelization, dive	ub-surface storage capacity and duration it Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface vater. Consider tidal flooding regime, if not sufficient to change vegetation).
3.	Water Storage/Su	rface Relief – assessment area/we	tland type condition metric	· · · · · · · · · · · · · · · · · · ·
	Check a box in ea	ach column. Select the appropriate	storage for the assessment area (AA) and	the wetland type (WT).
)	AA WT A B C C C C C C C C C C C C C C C C C C	> 50% of the wetland type with dep	ressions able to pond water > 2 feet ressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches der	

.4 پ	. Soil Texture/Structure – assessment area condition metric			
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil			
	 □B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) □C Predominantly characterized by other, mineral soil (no mottling) 			
	□D Gleyed mineral soil (F2, S4) ⊠E Soil ribbon < 1 inch			
· /	☐F Soil ribbon ≥1 inch			
	☐G No peat or muck presence ☑H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)			
	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)			
5.	Discharge into Wetland – opportunity metric			
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub	arges (Sub).		
	 ☑A ☑B ☑B ☐B 	he		
	C C Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excess			
6.				
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assess within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and wand within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in Plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M	vithin 2 miles		
	☐A ☐A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use example industrial, commercial, and high-density residential)	oles:		
	□B □B > 30% impervious surfaces without stormwater BMPs□C □C □C 10 to 30% impervious surfaces			
	□D □D <10% impervious surfaces			
	☐E ☐E ☐E Old urban development (pink areas on USGS 7.5-minute quadrangles) ☐F ☐F ☐F New adjacent development			
	☐G ☐G Confined animal operations (or other local, concentrated source of pollutants)			
	☐H ☐H ≥20% coverage of pasture without riparian buffer ☐I ☐I ☐I ≥20% coverage of pasture with effective riparian buffer			
	□J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer			
	□K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer □L □L ≥20% coverage of maintained grass/herb			
	M ☐M ☐M Silvicultural land with disturbance < 5 years old	daniman an		
7.	 □N □N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent overbank flow from affecting the assessment area. Wetland Acting as Vegetated Buffer – assessment area condition metric 	drainage or		
••	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or ca	anals)		
	widths of channels/braids for a total stream width.	ea, combine		
	⊠Yes □No			
	Is stream or other open water sheltered or exposed? ⊠Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.			
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric			
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of ba only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer characteristics. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer is measured from the outside banks of the outer characteristics.	nk and need annels of an		
	removed or disturbed. WT WC RB (if applicable)			
	⊠A ⊠A ≥100 feet			
	□B □B From 80 to < 100 feet			
	D D D From 40 to < 50 feet			
	□E □E From 30 to < 40 feet			
	☐F ☐F From 15 to < 30 feet ☐G ☐G ☐G From 5 to < 15 feet			
	☐H ☐H <5 feet			

•	Late Development and addition makes
پ 9.	Injundation Duration – assessment area condition metric
	Answer for assessment area dominant landform.
	A Evidence of short-duration inundation (< 7 consecutive days)
	□B Evidence of saturation, without evidence of inundation □C Evidence of long-duration inundation (7 to 30 consecutive days or more)
	Evidence of folig-dutation fruithation (7 to 50 consecutive days of more)
10.	Indicators of Deposition – assessment area condition metric
	Consider recent deposition only (no plant growth since deposition).
` _	
	B Sediment deposition is excessive, but not overwhelming the wetland.
	☐C Sediment deposition is excessive and is overwhelming the wetland.
11.	Wetland Size – wetland type/wetland complex condition metric
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A So00 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres C D D D From 25 to < 50 acres F F F From 5 to < 10 acres F F F From 5 to < 10 acres G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre J D J From 0.01 to < 0.5 acre
12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
	□A Wetland type is the full extent (≥90%) of its natural landscape size.
	☐B Wetland type is < 90% of the full extent of its natural landscape size.
13.	Connectivity to Other Natural Areas – landscape condition metric
\bigcirc	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥500 acres B B From 100 to < 500 acres C From 50 to < 100 acres D D From 10 to < 50 acres E C C To acres Wetland type has a poor or no connection to other natural habitats
	Check Yes or No.
	☐Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?
14.	Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,
	two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight
	main points of the compass.
	No artificial edge within 150 feet in all directions
	No artificial edge within 150 feet in four to seven directions
	An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate
	species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
<u>~</u> ."	□A Vegetation diversity is high and is composed primarily of native species.
()	B Vegetation diversity is low or has > 10% cover of exotics.
	C Vegetation is dominated by exotic species.

., 17.	۷e	getative	Structure -	- assessment area/wetland type condition metric				
	∀egetation present							
				coverage of vegetation for marshes only				
		∏A ∏B		overage of vegetation overage of vegetation				
				each column for each stratum. Evaluate this portion of the metric for non-marsh we	tlands. Consider			
\bigcirc				ace above the assessment area (AA) and the wetland type (WT) separately.				
		□A ⊠B □C	□A ⊠B □C	Canopy closed, or nearly closed, with natural gaps associated with natural processes Canopy present, but opened more than natural gaps Canopy sparse or absent				
		□A ⊠B □C	□A ⊠B □C	Dense mid-story/sapling layer Moderate density mid-story/sapling layer Mid-story/sapling layer sparse or absent				
		□A ⊠B □C	□A ⊠B □C	Dense shrub layer Moderate density shrub layer Shrub layer sparse or absent				
		⊠A □B □C	⊠a □b □c	Dense herb layer Moderate density herb layer Herb layer sparse or absent				
		Vegeta	tion absen	ıt ,				
18.	Sna	ags – we	tland type	condition metric				
			rge snags (ot A	(more than one) are present (> 12-inches DBH, or large relative to species present and landscape	e stability).			
19.	Dia	meter C	lass Distrib	bution – wetland type condition metric				
	\boxtimes			trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches D	BH) are			
		3 Mc		trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. trees are < 6-inches DBH or no trees.				
20.	Large Woody Debris – wetland type condition metric							
		Include both man-made and natural debris piles.						
			rge logs (m vt A	ore than one) are present (> 12-inches in diameter, or large relative to species present and lands	scape stability).			
21.	Sel	ect the fi	gure that b	er Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwat best describes the amount of interspersion between vegetation and open water in the growing stated areas, while solid white areas indicate open water.				
·								
22. □Y		oitat Unio ⊠No	•	wetland type condition metric N.C. Environmental Management Commission classified the assessment area as "Unique Wetlan	nde" (LIM/L \2"			
L	62	MINO	mas the t	V.C. Environmental Management Commission classified the assessment area as "Onique Wetlan	ius (UVVL):			
,	00000000000000000000000000000000000000	on and the second secon	N (Section 4 and		***************************************			
Not	es							

Wetland Site Name	G2-I-WAM03	Date of Assessment	9/7/07	
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	EcoScience	
Presence of str	essor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	NO		
Presence of reg	gulatory considerations (Y/N)	YES		
Wetland is intensively managed (Y/N)		NO		
Wetland may b	e a high-quality riverine wetland (Y/N)	***************************************		
Sub-function Rating	g Summary			
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	LOW	
	Sub-surface Storage and Reter	tion Condition	HIGH	
Water Quality	Pathogen Change	Condition	LOW	
		Condition/Opportunity	LOW	
		Opportunity Presence	(Y/N) YES	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
	•	Opportunity Presence	(Y/N) YES	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence		
Habitat	Physical Structure	Condition	MEDIUN	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	LOW	
	Uniqueness	Condition	NO	
Function Rating Sur	nmary			
Function		Metrics	Rating	
-lydrology		Condition	MEDIUM	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
Habitat		Condition	MEDIUN	

F	Wetland Site Name		Date	9/7/07					
	Wetland Type		Assessor Name/Organization	AS, RA, EcoScience					
1	Level III Ecoregion	Southeastern Plains	Nearest Named Water Body	Big Branch					
	River Basin	Cape Fear	USGS 8-Digit Catalogue Unit Latitude/Longitude (deci-degrees)	03030004 35.111304, -78.975669					
\mathbb{A}	☐ Yes ⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	33.111304, -76.973009					
	Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.) Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)								
		essors that are present. eway, utility crossing, Fort Bragg							
	NCDWQ ripar Wetland adjac Publicly owner N.C. Division N.C. Division	he assessment area. ish ected species or State endangered ian buffer rule in effect eent to or associated stream drains of d property of Coastal Management Area of En-		fer) s of HQW, ORW, or Trout					
+		·							
		tream is associated with the wetl	and, if any? (Check all that apply)						
	☒ Blackwater☒ Brownwater								
		check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both						
1	Is the assessment are	a on a coastal island? Yes	⊠ No						
	Is the assessment are	a's surface water storage capacit	y or duration substantially altered by b	eaver? 🛛 Yes 🗌 No					
L.	0 10 6 2		accoment area condition metric						
1	Check a box in each	ch column. Consider alteration to	ssessment area condition metric the ground surface (GS) in the assessm f applicable (see User Manual v1.0). If a	ent area and vegetation structure (VS) in reference is not applicable, then rate the					
	□B □B S	edimentation, fire-plow lanes, skid-	isturbance, herbicides, salt intrusion [whe	obvious pollutants) (vegetation structure					
2			ation – assessment area condition met						
	(Sub). Consider bo G) for North Carolin water only, while a applicable.	Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if							
	□B □B V ⊠C □C V	Vater storage capacity or duration a	re altered, but not substantially (typically, re substantially altered (typically, alteratio ng, fill, sedimentation, channelization, dive	n sufficient to result in vegetation					
3	3. Water Storage/Sur	face Relief – assessment area/we	tland type condition metric	A A A A A A A A A A A A A A A A A A A					
	Check a box in each	ch column. Select the appropriate	storage for the assessment area (AA) and	the wetland type (WT).					
)	AA WT \[\text{\tint{\text{\tin}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tex{\tex	> 50% of the wetland type with depressions of the wetland type with depressions of wetland type with depressions.	essions able to pond water > 2 feet essions able to pond water 1 to 2 feet ions able to pond water 6 inches to 1 foot ions able to pond water 3- to 6-inches dee						

4.	Soil Texture/Structure – assessment area condition metric
•	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). Sandy soil
	□B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) □C Predominantly characterized by other, mineral soil (no mottling) □D Gleyed mineral soil (F2, S4)
	Soil ribbon < 1 inch Soil ribbon ≥1 inch
	☐G No peat or muck presence ☐H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)
	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)
5.	Discharge into Wetland – opportunity metric
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub
	□A □A Little or no evidence of pollutants or discharges entering the assessment area □B □B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area
	Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)
6.	Land Use – opportunity metric
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M
	☐A ☐A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
	□B □B > 30% impervious surfaces without stormwater BMPs □C □C □C 10 to 30% impervious surfaces
	□D □D □D < 10% impervious surfaces
	☐E ☐E ☐E Old urban development (pink areas on USGS 7.5-minute quadrangles) ☐F ☐F ☐F New adjacent development
	□G□G□G□G□G□G□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D□D
	□I □I □I ≥20% coverage of pasture with effective riparian buffer
	□J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer □K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
	L □L ≥20% coverage of maintained grass/herb
	□M □M Silvicultural land with disturbance < 5 years old □N □N □N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or
	overbank flow from affecting the assessment area.
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) ⊠Yes □No If No, Skip to next metric
	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine
	widths of channels/braids for a total stream width. □ ≤15-feet wide □ Not Applicable
	Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water?
	⊠Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet or regular boat traffic.
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric
σ.	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex
	(WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed.
	removed or disturbed. WT WC RB (if applicable)
	⊠A ⊠A ≥100 feet
	□C □C From 50 to < 80 feet
	D D From 40 to < 50 feet
	☐E ☐E From 30 to < 40 feet ☐F ☐F From 15 to < 30 feet
	☐G ☐G From 5 to < 15 feet
	□H □H <5 feet

9 .	nundation Duration – assessment area condition metric Answer for assessment area dominant landform. Answer for assessment area dominant landform. Bevidence of short-duration inundation (< 7 consecutive days) Bevidence of saturation, without evidence of inundation Cevidence of long-duration inundation (7 to 30 consecutive days or more)					
1 0.	Indicators of Deposition – assessment area condition metric Consider recent deposition only (no plant growth since deposition). ☑A Sediment deposition is not excessive, but at approximately natural levels. ☐B Sediment deposition is excessive, but not overwhelming the wetland. ☐C Sediment deposition is excessive and is overwhelming the wetland.					
11.	Wetland Size – wetland type/wetland complex condition metric					
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A So0 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres C C From 50 to < 100 acres G G G From 1 to < 25 acres F F F From 5 to < 10 acres G G G From 1 to < 5 acres H H H H H From 0.5 to < 1 acre J J J J From 0.01 to < 0.1 acre K K K K K K < 0.01 acre					
12	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)					
	□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.					
13	Connectivity to Other Natural Areas – landscape condition metric Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC MA □A ≥500 acres					
	□A ≥500 acres □B From 100 to < 500 acres □C □C From 50 to < 100 acres □D □D From 10 to < 50 acres □E □E < 10 acres □F □F Wetland type has a poor or no connection to other natural habitats					
	Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) No Is the assessment area subject to overbank flooding during normal conditions?					
14	Edge Effect – wetland type condition metric					
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. ☐ A No artificial edge within 150 feet in all directions ☐ B No artificial edge within 150 feet in four to seven directions ☐ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut					
15	. Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)					
	 ✓A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. ✓B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species. 					
16	. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
	□ A Vegetation diversity is high and is composed primarily of native species. □ B Vegetation diversity is low or has > 10% cover of exotics. □ C Vegetation is dominated by exotic species.					

17.	Vegetative Structure – assessment area/wetland type condition metric
*	∇egetation present
	Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation
	☐B < 25% coverage of vegetation
_	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
`	structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
1	AA WT ☐A Canopy closed, or nearly closed, with natural gaps associated with natural processes
	☐ B ☐ Canopy closed, of flearly closed, with flatural gaps associated with flatural processes ☐ B ☐ Canopy present, but opened more than natural gaps
	☐C ☐C Canopy sparse or absent
	☐A ☐A Dense mid-story/sapling layer
	☑B ☑B Moderate density mid-story/sapling layer
	C C Mid-story/sapling layer sparse or absent
	☐A ☐A Dense shrub layer ☑B ☑B Moderate density shrub layer
	⊠B ⊠B Moderate density shrub layer □C □C Shrub layer sparse or absent
	⊠A ⊠A Dense herb layer
	B DB Moderate density herb layer
	☐C ☐C Herb layer sparse or absent
	☐ Vegetation absent
18.	Snags – wetland type condition metric
	Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).
	□B Not A
19.	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
	present. B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.
	☐C Most canopy trees are < 6-inches DBH or no trees.
20.	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles.
	∐A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).
	□B Not A
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
,	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
	areas indicate vegetated areas, while solid white areas indicate open water. ☐A ☐B ☐C ☐D
22	Habitat Uniqueness – wetland type condition metric
 □Y	
٠.	CO ESTADO TIDO TITO TELESTA MANAGONIONE CONTINUOSON CACADONIO DE CONTINUO DE C

Note	es ·

Wetland Type Riverine Swamp Forest Assessor Name/Organization AS, RA, EcoScience Presence of stressor affecting assessment area (Y/N) Notes on Field Assessment Form (Y/N) Wetland is intensively managed (Y/N) Wetland may be a high-quality riverine wetland (Y/N) Pfunction Rating Summary Function NO Sub-function Rating Summary Function Sub-function Metrics Rating Hydrology Surface Storage and Retention Sub-surface Storage Sub-surface Storage Sub-surface Storage Sub-surface Storage Sub-surface Sub-sub-surface Sub-surface Sub-sub-surface Sub-sub-surface Sub-sub-surface Sub-sub-surface Sub-sub-surface Sub-sub-sub-sub-sub-sub-sub-sub-sub-sub-s	Wetland Site Name	G3-I-WAM01	Date of Assessment	9/7/07	
Notes on Field Assessment Form (Y/N) NO Presence of regulatory considerations (Y/N) YES Wetland is intensively managed (Y/N) NO Sub-function Rating Summary Wetland may be a high-quality riverine wetland (Y/N) Function Sub-function Metrics Rating Hydrology Surface Storage and Retention Sub-surface Storage and Retention Sub-surface Storage and Retention Sub-surface Storage and Retention Condition Condition LOW Water Quality Pathogen Change Condition (Opportunity Presence (Y/N)) YES Particulate Change Condition (Opportunity Presence (Y/N)) YES Particulate Change Condition (Opportunity Presence (Y/N)) YES Soluble Change Condition (Opportunity Presence (Y/N)) YES Condition (Opportunity Presence (Y/N)) YES Physical Change Condition (Opportunity Presence (Y/N)) YES Pollution Change Condition (Opportunity Presence (Y/N)) X Condition (Opportunity Presence (Y/N)) X Condition (Opportunity Presence (Y/N)) X Habitat Physical Structure Condition (Opportunity Presence (Y/N)) X	Wetland Type	Riverine Swamp Forest	Assessor Name/Organization -	AS, RA, EcoScience	
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Wetland is intensively managed (Y/N) NO Sub-function Rating Summary Function Sub-function Metrics Rating Hydrology Surface Storage and Retention Sub-surface Storage and Retention Pathogy Condition LOW Water Quality Pathogen Change Condition LOW Particulate Change Condition/Opportunity Presence (Y/N) YES Particulate Change Condition/Opportunity Presence (Y/N) YES Soluble Change Condition/Opportunity Presence (Y/N) YES Physical Change Condition/Opportunity Presence (Y/N) YES Physical Change Condition/Opportunity Presence (Y/N) YES Physical Change Condition/Opportunity Presence (Y/N) YES Pollution Change Condition/Opportunity Presence (Y/N) YES Pollution Change Condition/Opportunity Presence (Y/N) YES Habitat Physical Structure Condition/Opportunity X Condition/Opportunity X Opportunity Presence (Y/N) X Water Quality Vegetation Composition Condition	Notes on Field	Assessment Form (Y/N)	NO		
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Function Sub-function Metrics Rating Hydrology Surface Storage and Retention Sub-surface Storage and Retention Sub-s	Wetland may b	e a high-quality riverine wetland (Y/N)			
Function Sub-function Metrics Rating Hydrology Surface Storage and Retention Sub-surface Storage and Retention Sub-s	Sub-function Ratino	a Summary			
Sub-surface Storage and Retention			Metrics	Rating	
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Particulate Change		Sub-surface Storage and Reter	ntion Condition	HIGH	
Particulate Change	Water Quality	Pathogen Change	Condition	LOW	
Particulate Change Condition (Dyportunity) (Dyportunity) HIGH (Dyportunity) HIGH (Dyportunity) HIGH (Dyportunity) HIGH (Dyportunity) YES PIGH (Dyportunity) YES PIGH (Dyportunity) HIGH (Dyportunity) HIGH (Dyportunity) HIGH (Dyportunity) HIGH (Dyportunity) YES PIGH (Dyportunity) HIGH (Dyportunity) YES PIGH (Dyportunity) YES PIGH (Dyportunity) YES PIGH (Dyportunity) X PIGH (Dyportunity) PIGH (Dyportunit			Condition/Opportunity	LOW	
Soluble Change			Opportunity Presence ((Y/N) YES	
Soluble Change		Particulate Change	Condition	HIGH	
			Condition/Opportunity	HIGH	
Physical Change			Opportunity Presence (Y/N) YES	
Opportunity Presence (Y/N) YES Physical Change Condition HIGH Condition/Opportunity HIGH Opportunity Presence (Y/N) YES Pollution Change Condition X Condition/Opportunity X Opportunity Presence (Y/N) X Habitat Physical Structure Condition MEDIUM Landscape Patch Structure Condition HIGH Vegetation Composition Condition NO Function Rating Summary Function Rating Summary Condition Metrics Rating Hydrology Condition MEDIUM Water Quality Condition HIGH Condition/Opportunity HIGH Condition/Opportunity HIGH Opportunity Presence (Y/N) YES		Soluble Change	Condition	HIGH	
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Pollution Change		Physical Change	Condition	HIGH	
Pollution Change Condition			Condition/Opportunity	HIGH	
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Landscape Patch Structure Vegetation Composition Uniqueness Condition HIGH Uniqueness Condition NO Function Rating Summary Function Metrics Rating Hydrology Condition MEDIUM Water Quality Condition Condition HIGH Condition/Opportunity HIGH Opportunity Presence (Y/N) YES			Opportunity Presence (Y/N) X	
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Function Rating Summary Function Metrics Rating Hydrology Condition MEDIUM Water Quality Condition HIGH Condition/Opportunity HIGH Opportunity Presence (Y/N) YES		Vegetation Composition	Condition	HIGH	
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Water Quality Condition HIGH Condition/Opportunity HIGH Opportunity Presence (Y/N) YES			Metrics	Rating	
Condition/Opportunity Opportunity Presence (Y/N) YES	Hydrology		Condition		
Opportunity Presence (Y/N) YES	Water Quality		Condition	HIGH	
			Condition/Opportunity	HIGH	
Habitat Condition HIGH			Opportunity Presence (Y/N) YES	
	Habitat		Condition	HIGH	

Overall Wetland Rating HIGH

_		C3 LWAMC2	Date	9/7/07			
	Wetland Site Name	G3-I-WAM02 Non-Tidal Freshwater Marsh	Assessor Name/Organization	AS, RA, EcoScience			
	Wetland Type	Southeastern Plains	Nearest Named Water Body	Big Branch			
	Level III Ecoregion River Basin		USGS 8-Digit Catalogue Unit	03030004			
7		Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.111069, -78.976471			
Evidence of stressors affecting the assessment area (may not be within the assessment area) Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. • Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.) • Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.) • Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) • Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.) Is the assessment area intensively managed? Yes No							
	Describe effects of sta Beaver impacted, Fort	ressors that are present. Bragg					
			MANAGEMENT AND THE STATE OF THE				
	Regulatory Considera Select all that apply to	the assessment area.					
	Anadromous	fich	d or throatened species				
	- MODIMO sine	tected species or State endangered rian buffer rule in effect					
		cent to or associated stream drains	s to a Primary Nursery Area				
	│ □ Publicly owne	ed property	Concern (AEC) (including by	uffer)			
	N.C. Division	of Coastal Management Alea of E	fication of SA or supplemental classificati	ons of HQW, ORW, or Trout			
	☐ Designated N	NCNHP reference community					
	What type of natural	stream is associated with the we	tland, if any? (Check all that apply)				
	₩ Blackwater			·			
	Brownwater	the following haves)	☐ Lunar ☐ Wind ☐ Both				
	. —	check one of the following boxes)					
. /	Is the assessment ar	rea on a coastal island? 🔲 Yes		heaver? 🛛 Yes 🗌 No			
	Is the assessment ar	ea's surface water storage capac	city or duration substantially altered by	beaver. 23 100 E			
	Check a box in e the assessment area be assessment area be		assessment area condition metric to the ground surface (GS) in the assess d if applicable (see User Manual v1.0). I	sment area and vegetation structure (VS) in f a reference is not applicable, then rate the			
	GS VS ⊠A ⊠A □B □B	Not severely altered Severely altered over most of the	assessment area (ground surface alteration	on examples: vehicle tracks, excessive			
		sedimentation, fire-plow lanes, sk alteration examples: mechanical less diversity [if appropriate], artific	disturbance, herbicides, salt intrusion (scial hydrologic alteration)	where appropriate], exotic species, grazing,			
	2. Surface and Sub-	-Surface Storage Capacity and D	uration – assessment area condition m	netric			
	Check a box in (Sub). Consider b	each column. Consider surface sooth increase and decrease in hydrolina hydric soils for the zone of influence a ditch > 1 foot deep is expected.	storage capacity and duration (Surry and crology. Refer to the NRCS Scope and E uence of ditches in hydric soils. A ditched to affect both surface and sub-surface.	ffect Guide (see User Manual v1.0 Appendix ≤1 foot deep is considered to affect surface e water. Consider tidal flooding regime, if			
	⊠A ⊠A □B □B □C □C	Water storage capacity or duratio change) (examples: intensive dit dams, stream incision, sewer line	n are altered, but not substantially (typical n are substantially altered (typically, alters ching, fill, sedimentation, channelization, us, soil compaction).	lly, not sufficient to change vegetation). ation sufficient to result in vegetation diversion, man-made berms, beaver			
	3. Water Storage/S	Surface Relief – assessment area	wetland type condition metric	and the wetland type (WT).			
	Check a box in	each column. Select the appropria	ale storage for the docooding	W. W. T. T. T. T. T. T. T. T. T. T. T. T. T.			
	AA WT BA BA CC CC CD CD	> 50% of the wetland type with d > 50% of the wetland type with d > 50% of wetland type with depr	epressions able to pond water > 2 feet epressions able to pond water 1 to 2 feet essions able to pond water 6 inches to 1 f essions able to pond water 3- to 6-inches	oot			
		Depressions able to pond water	₩ ######## • • •				

4	Soil Texture/Structure – assessment area condition metric Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). Sandy soil A Sandy soil				
$\overline{}$	Predominantly characterized by mottled (redoxymorphic features), filline at soil (16,16,112, 1116, 115) Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4) Soil ribbon < 1 inch				
,	Soil ribbon ≥1 inch G No peat or muck presence H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1) Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)				
5.	Discharge into Wetland - opportunity metric Note the state of the sta				
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub				
	 □ A Little or no evidence of pollutants or discharges entering the assessment the control of the				
	treatment capacity of the assessment area The potential of the assessment area and service and the potential of the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)				
6.	Land Use – opportunity metric				
	Land Use – opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area (5M), and within 2 miles within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.				
	WS 5M 2M A A A A A A A A A A A A A A A A A A A				
	□B ☑B > 30% impervious surfaces without stormwater BMPs ☑C □C □C 10 to 30% impervious surfaces				
	D D C < 10% impervious surfaces				
	F F New adjacent development				
	S20% coverage of pasture without riparian buffer				
	□ □ □ □ □ ≥20% coverage of pasture with effective highlight bound in the partial buffer				
	K DK ≥20% coverage of agricultural land (regularly plowed land) with effective riparian series >20% coverage of maintained grass/herb				
	M Silvicultural land with disturbance < 5 years old				
	overbank flow from affecting the assessment area.				
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)				
	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine				
	widths of channels/braids for a total stream width.				
	Solution Solution States for the state of t				
•	⊠Yes □No				
	⊠Sheltered – adjacent open water with width ≥2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.				
8	. Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric				
	8. Wetland/Riparian Buffer Width - assessment area/wetland syperate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been anastomosed.				
	removed or disturbed. WT WC RB (if applicable)				
	□A □A ⊠A ≥100 feet □B □B □B From 80 to < 100 feet				
_	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □				
	TE TE From 30 to < 40 feet				
` '					
	□H □H <5 feet				

9	lnup	dation Dur	ation – as:	sessment area condition metric		
~ <u>i</u> j.	Ansv	_		on dominant landform.		
				-duration inundation (< 7 consecutive days) ration, without evidence of inundation ration, without evidence of onesecutive days or more)		
	□B	Evider	ice of long-	duration inundation (7 to 30 consecutive 55)		
10.	Indi	cators of D	eposition	– assessment area condition metric		
\bigcap	Con					
	\boxtimes A	Sedim	ent deposi	tion is not excessive, but at opposition is not excessive, but not overwhelming the wetland.		
		Sedim	ient deposi	tion is excessive and is overwhelming the warm		
11	Mat	- AziS hack	wetland t	ype/wetland complex condition metric		
	Che	ck a box i	n each col	ype/wetland complex condition metric umn. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the NT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if NT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if NT), the size of the contiguous wetland some complex (WC), and the size of the contiguous, forested wetland (FW) (if NT), the size of the contiguous wetland some considered beaver pond forms and the size of the contiguous, forested wetland types are considered boundaries for column and the size of the contiguous, forested wetland (FW) (if NT),		
				cross the entire water of the recommon section of the		
	WT	WC	FVV (IT	applicable)		
			∏A ⊠B	≥500 acres From 100 to < 500 acres		
			□c	From 50 to < 100 acres		
				From 25 to < 50 acres From 10 to < 25 acres		
	□E ⊠F		냚	From 5 to < 10 acres		
		G □G	□G	From 1 to < 5 acres From 0.5 to < 1 acre		
			□H □1	From 0.1 to < 0.5 acre		
		J 🔲 J	□J	From 0.01 to < 0.1 acre		
		K □K	□ĸ	< 0.01 acre		
12			tness – W	etland type condition metric (evaluate for Pocosins only) the full extent (≥90%) of its natural landscape size.		
		B Wetl	and type is	s < 90% of the full extent of its natural influence		
13	3. Cc	nnectivity	to Other N	latural Areas – landscape condition metric ((es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if (if (es)). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if (es)). This metric refers to the landscape patch, the contiguous landscapes, maintained fields (pasture and extensive content of the landscape).		
	ap aq	propriate) t iriculture), (nat include or open wa	((es). This metric refers to the landscape patch, the contiguous naturally vegetated and a third open content of the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and s the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and s the wetland type is well-connected (WC) or loosely-connected (LC) to the later > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the		
\ /	iar W	ndscape pa				
	\boxtimes]A □A) acres 100 to < 500 acres		
]B □B]C □C	From	₁ 50 to < 100 acres		
		jo 🗀	From	10 to < 50 acres		
]E	< 10 Wetl	acres and type has a poor or no connection to other natural habitats		
		heck Yes C	r No.	s wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)		
	\boxtimes	آYes □۱	lo Does	s wetland type have a surface hydrology connection to open waters of that he had been subject to overbank flooding during normal conditions?		
		⊴Yes □N				
1	4. E	dge Effect	- wetland	type condition metric wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, wetland type boundary to artificial edges. Artificial edges include permanent features are the fields a		
	E	stimate dist	ance from	wetland type boundary to artificial edges. Artificial edges include permanent reactives such as holds, wetland type boundary to artificial edges. Artificial edges include permanent reactives such as holds, we wetland type boundary to artificial edges. Artificial edges include permanent reactives such as holds, and clear-cuts < 10 years old. Consider the eight so (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight		
	n	nain points (st tha cami	7266		
]A No]B No	artificial ed	dge within 150 feet in all directions dge within 150 feet in four to seven directions dge within 150 feet in four to seven directions or assessment area is clear-cut		
	15	70 40	artificial ec	dge occurs within 150 feet in more than four directions and supplied that the control of the con		
	15. V	/egetative (Compositi	on – assessment area condition metric (skip for marshes and Pine Flat) On – assessment area condition metric (skip for marshes and Pine Flat) On – assessment area condition metric (skip for marshes and Pine Flat)		
		¬ \ \/a	antation is	close to reference condition in species present and their proposition		
	ſ	7p \/c	aetation is	different from reference condition in species are supplied to pative species that develop after clearcutting of		
	·	. 1-		of the wetland IVIDE IIIIS IIII IIII IIII IIII IIII IIII		
	,	characteristic of the World Appeters with exotics present, but not dominant, over a large portion of the expected stratal clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected stratal clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected stratal clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected stratal clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected stratal clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected stratal clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected stratal clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected stratal clearing.				
		∏C V€	ecies or co	everely altered from reference in composition. Expected strata are unfaturally absent of expectes everely altered from reference in composition. Expected strata are unfaturally absent of expectes everely altered from reference in composition. Expected strata are unfaturally absent of expected strata are unfaturally absent		
	16			area condition metric (evaluate for Non-tidal Freshwater		
_		Vegetative ⊠A ∨	egetation o	iversity is larger than 3 10% cover of exotics.		
)	□B V	totion c	hydreity is how of had a room and a room a room and a room a room and a room a room and a room and a room and a room a room and a room a room and a room a room a room and a room a		
N , 2		□c v	egetation i	s dominated by exotic species.		

	<u>1</u> 7.	Vegetative Structure – assessment area/wetland type condition metric
		 ✓ Vegetation present Evaluate percent coverage of vegetation for marshes only
		Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	+	structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
		□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
		□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
		□A □A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent
	40	□ Vegetation absent
	18.	Snags – wetland type condition metric A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A
	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
		 ☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees.
	20.	Large Woody Debris – wetland type condition metric
		Include both man-made and natural debris piles. \[\] A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). \[\] B Not A
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
. ,	,	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.
		areas indicate vegetated areas, while solid white areas indicate open water.
	22 .	Habitat Uniqueness – wetland type condition metric Yes ⊠No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
	Note	es es

Wetland Site Name G3-I-WAM02		Date of Assessment	9/7/07		
Wetland Type	Non-Tidal Freshwater Marsh A	Assessor Name/Organization	AS, RA, EcoScience		
•					
Presence of st	ressor affecting assessment area (Y/N)	YES			
	Assessment Form (Y/N)	NO			
Presence of re	gulatory considerations (Y/N)	YES			
Wetland is inte	ensively managed (Y/N)	NO			
Wetland may b	e a high-quality riverine wetland (Y/N)				
O. I. C. H Datin	- C				
Sub-function Rating Function	Sub-function	Metrics		Rating	
Hydrology	Surface Storage and Retention	Condition		X	
riyarology	Sub-surface Storage and Retent			X	
Water Quality	Pathogen Change	Condition		X	
Water Quanty	, amogen onenge	Condition/Opportunity		X	
		Opportunity Presence	(Y/N)	X	
	Particulate Change	Condition		X	
	.	Condition/Opportunity		X	
		Opportunity Presence	(Y/N)	X	
	Soluble Change	Condition		X	
	•	Condition/Opportunity		X	
		Opportunity Presence	(Y/N)	X	
	Physical Change	Condition		X	
	,	Condition/Opportunity		X	
		Opportunity Presence	(Y/N)	X	
	Pollution Change	Condition		X	
	•	Condition/Opportunity		X	
		Opportunity Presence	(Y/N)	X	
Habitat	Physical Structure	Condition		HIGH	
	Landscape Patch Structure	Condition		HIGH	
	Vegetation Composition	Condition		HIGH	
	Uniqueness	Condition		NO	
Function Define Co	Immory				
Function Rating Su	ammary	Metrics		Rating	
Hydrology		Condition		HIGH	
Water Quality		Condition		HIGH	
		Condition/Opportunity		X	
		Opportunity Presence		X	
Habitat		Condition		HIGH	
Habitat				-	

Overall Wetland Rating HIGH





	Wetland Si	-	O-I-WAM01	Date	9/7/07
	Wetla	ind Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience
	Level III Ed			Nearest Named Water Body	Big Branch
	☐ Yes	er Basin ⊠ No		USGS 8-Digit Catalogue Unit	
/ ⊢				Latitude/Longitude (deci-degrees)	35.110646, -78.981095
	for instance, Hydr Surfa septi Sign Habi	and/or make within 10 yerological mace and so ic tanks, ure so of vegetat/plant co	re note below if evidence of stress ears). Noteworthy stressors includ odifications (examples: ditches, daub-surface discharges into the wenderground storage tanks (USTs).	mortality, insect damage, disease, storm obving, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
F	escribe effe	cts of stre	ssors that are present.	терия на при выполнения под под на меней поточном и и и и и и и и и и и и и и и и и и и	personal actions occupy distribution on the control and control an
RS	Anad Fede NCD Wetla Publi N.C. N.C.	apply to the fromous fise frally protect WQ riparia and adjace cly owned Division of Division of	e assessment area. h cted species or State endangered on n buffer rule in effect nt to or associated stream drains to property Coastal Management Area of Eny		er) s of HQW, ORW, or Trout
	Black Brown Tidal	water nwater (if tidal, ch		nd, if any? (Check all that apply)	
				☑ No or duration substantially altered by be	
					aver? Yes No
1.	the assessn	ox in each nent area area base A Not B Sev sed alte	d on evidence of alteration. severely altered erely altered over most of the assetimentation, fire-plow lanes, skidde	he ground surface (GS) in the assessment applicable (see User Manual v1.0). If a rule ssment area (ground surface alteration expert racks, bedding, fill, soil compaction, outproaches, salt intrusion (where turbance, herbicides, salt intrusion (where	eference is not applicable, then rate the xamples: vehicle tracks, excessive
2.	Surface and			ion – assessment area condition metric	
	Check a bo (Sub). Cons G) for North	ox in each sider both i Carolina h while a dit b A Wat B Wat C Wat	column. Consider surface stora ncrease and decrease in hydrolog lydric soils for the zone of influenc ch > 1 foot deep is expected to er storage capacity and duration are er storage capacity or duration are er storage capacity or duration are er storage capacity or duration are	age capacity and duration (Surf) and sub y. Refer to the NRCS Scope and Effect to the of ditches in hydric soils. A ditch ≤1 for affect both surface and sub-surface was re not altered. altered, but not substantially (typically, no substantially altered (typically, alteration substantially altered), fill, sedimentation, channelization, divers	r-surface storage capacity and duration Guide (see User Manual v1.0 Appendix not deep is considered to affect surface ster. Consider tidal flooding regime, if the sufficient to change vegetation).
3.	Water Stora	ge/Surfac	e Relief – assessment area/wetla	and type condition metric	
				prage for the assessment area (AA) and th	ne wetland type (WT)
	AA WT	Γ			Totalia typo (TTT).
	□A □/ □B □E □C □C □D □E □E □E	B > 50 C > 50 D > 50	% of wetland type with depression	sions able to pond water 1 to 2 feet is able to pond water 6 inches to 1 foot is able to pond water 3- to 6-inches deep	

4 .	4. Sôil Texture/Structure – assessment area condition metric									
\bigcirc	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4) Soil ribbon < 1 inch									
	⊠G No peat o □H A peat or □ □	□F Soil ribbon ≥1 inch □G No peat or muck presence □H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)								
5.										
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub									
	t	Little or no evidence of pollutants or discharges entering the assessment area Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the reatment capacity of the assessment area								
		Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)								
6.	Land Use – opport	unity metric								
	and within the water Plain and Piedmont	y. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area am watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles shed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal and 30 feet wide in the Mountains.								
		⇒ 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)								
	□c ⊠c ∑	☑C 10 to 30% impervious surfaces								
		□D < 10% impervious surfaces □E Old urban development (pink areas on USGS 7.5-minute quadrangles)								
_		☐F New adjacent development								
	□н □н [☐H ≥20% coverage of pasture without riparian buffer								
		I ≥20% coverage of pasture with effective riparian buffer IJ ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer								
		 ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥20% coverage of maintained grass/herb 								
	MM	M Silvicultural land with disturbance < 5 years old								
		overbank flow from affecting the assessment area.								
7.		Vegetated Buffer – assessment area condition metric								
	∟ res ∟	ea within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)]No If No, Skip to next metric								
	Stream width (Stream widths of channels/br ≤15-feet	m width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine raids for a total stream width. wide > 15-feet wide Not Applicable								
	Do roots of assessme ⊠Yes ☐	ent area vegetation extend into the bank of the adjacent stream/open water?								
	Is stream or other op ⊠Sheltered	en water sheltered or exposed? d – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.								
		uffer Width – assessment area/wetland type/wetland complex metric								
Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wet (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of be only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer chanastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer incommon disturbed.										
	WT WC R	3 (if applicable)								
	⊠A ⊠A ⊠ □B □B □									
	_c _c _	C From 50 to < 80 feet								
	□D □D □ □E □E □	E From 30 to < 40 feet								
. / .		F From 15 to < 30 feet								
]G From 5 to < 15 feet]H < 5 feet								

	9.	9. Inundation Duration – assessment area condition metric									
		Answer for assessment area dominant landform.									
		☐A Evidence of short-duration inundation (< 7 consecutive days)☐B Evidence of saturation, without evidence of inundation									
		SC Evidence of Saturation, without evidence of mandation (7 to 30 consecutive days or more)									
_	10.	0. Indicators of Deposition – assessment area condition metric									
)	Consider recent deposition only (no plant growth since deposition).									
		 ☑A Sediment deposition is not excessive, but at approximately natural levels. ☐B Sediment deposition is excessive, but not overwhelming the wetland. 									
		C Sediment deposition is excessive, but not overwhelming the wetland.									
	11.	Wetland Size – wetland type/wetland complex condition metric									
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspec size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An of a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are consid WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A A Soo acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F From 50 to < 10 acres	is, forested wetland (FW) (if bserved beaver pond forms								
		☐G ☐G From 1 to < 5 acres ☐H ☐H From 0.5 to < 1 acre									
		☐I									
		□J □J From 0.01 to < 0.1 acre □K □K < 0.01 acre									
	40										
	12.	12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only) □A Wetland type is the full extent (≥90%) of its natural landscape size.									
		B Wetland type is < 90% of the full extent of its natural landscape size.									
	13.	3. Connectivity to Other Natural Areas – landscape condition metric									
)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetate appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, ma agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or look landscape patch. WC LC	intained fields (pasture and								
		⊠A									
		☐C ☐C From 50 to < 100 acres									
		□D □D From 10 to < 50 acres □E □E < 10 acres									
		F Wetland type has a poor or no connection to other natural habitats									
		Check Yes or No.									
		☐Yes☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No☐No	valuate for marshes only)								
	14.	4. Edge Effect – wetland type condition metric									
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, develo two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider th main points of the compass. □A No artificial edge within 150 feet in all directions										
		 ☑B No artificial edge within 150 feet in four to seven directions ☐C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut 									
	15.	5. Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)									
			osed of appropriate								
		species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely c characteristic of the wetland type. This may include communities of weedy native species that declearing. It also includes communities with exotics present, but not dominant, over a large portion of the vegetation severely altered from reference in composition. Expected strata are unnaturally absence or composed of planted stands of non-characteristic species or inappropriately composed of a	evelop after clearcutting or ne expected strata. ent or dominated by exotic								
	16.	16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)									
)	 ☐A Vegetation diversity is high and is composed primarily of native species. ☐B Vegetation diversity is low or has > 10% cover of exotics. ☐C Vegetation is dominated by exotic species. 									
		LO TOGOLADOTTO COMMISSEE A) ELECTRICATION OF THE COMMISSEE AND ADDRESS OF THE COMMISSE AND ADDRESS OF T									

** 17.	. Vegetative Structure – assessment area/wetland type condition metric	
	Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation	
	B < 25% coverage of vegetation	
\bigcirc	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT	er
	□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent	
	□A Dense shrub layer □B ☑B Moderate density shrub layer □C □C Shrub layer sparse or absent	
	□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent	
	☐ Vegetation absent	
18.	Snags – wetland type condition metric	
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). □B Not A	
19.	Diameter Class Distribution – wetland type condition metric	
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.	
	 □B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. □C Most canopy trees are < 6-inches DBH or no trees. 	
20.	Large Woody Debris – wetland type condition metric	
	Include both man-made and natural debris piles. \[\Bar{\text{Large logs (more than one)}}\] A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). \[\Bar{\text{Not A}}\] Not A	
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)	
()-···	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterne areas indicate vegetated areas, while solid white areas indicate open water.	d
22.	Habitat Uniqueness – wetland type condition metric	
Y€	es 🖾 No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"	
Note	SS	HAS

Wetland Site Name	O-I-WAM01	Date of Assessment	9/7/07		
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience		
	essor affecting assessment area (Y/N)	YES			
	Assessment Form (Y/N)	NO			
	ulatory considerations (Y/N)	YES			
	sively managed (Y/N)	NO			
Wetland may be	e a high-quality riverine wetland (Y/N)				
Sub-function Rating	Summary				
unction	Sub-function	Metrics	Rating		
Hydrology	Surface Storage and Retention	Condition	HIGH		
	Sub-surface Storage and Reter	ntion Condition	MEDIUM		
Vater Quality	Pathogen Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence	(Y/N) YES		
	Particulate Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence	(Y/N) YES		
	Soluble Change	Condition	MEDIUM		
		Condition/Opportunity	HIGH		
		Opportunity Presence	(Y/N) YES		
	Physical Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence ((Y/N) NO		
	Pollution Change	Condition	X		
		Condition/Opportunity	X		
		Opportunity Presence (Y/N) X		
abitat	Physical Structure	Condition	LOW		
	Landscape Patch Structure	Condition	HIGH		
	Vegetation Composition	Condition	HIGH		
	Uniqueness	Condition	NO		
unction Rating Sumr	mary				
unction		Metrics	Rating		
ydrology		Condition	HIGH		
ater Quality		Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence (
abitat		Condition	MEDIUM		
	ating HIGH	Condition/Opportunity Opportunity Presence (Y/N) 		

	We	tland Si	te Name	N-I-WAM01	Date	9/7/07
		Wetla	nd Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience
	Le	vel III Ed	coregion	Southeastern Plains	Nearest Named Water Body	Big Branch
		Riv	er Basin	Cape Fear	USGS 8-Digit Catalogue Unit	03030004
,	[Yes	⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.109776, -78.987825
	Pleas (for in	se circle nstance, Hyd Surf sepi Sigr Hab	and/or ma within 10 rological if face and tic tanks, ns of vege itat/plant	ake note below if evidence of stres years). Noteworthy stressors inclumodifications (examples: ditches, osub-surface discharges into the wunderground storage tanks (USTs) tation stress (examples: vegetation community alteration (examples: nation in the stress of the s	n mortality, insect damage, disease, storm nowing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby
		c ribe eff e Bragg	ects of st	ressors that are present.		
	Regu Select	ct all that Ana Fed NCI We Pub N.C N.C	dromous erally pro DWQ ripa tland adja dicly owned Division	the assessment area. fish tected species or State endangered rian buffer rule in effect cent to or associated stream drains ad property of Coastal Management Area of F		fer) ns of HQW, ORW, or Trout
			-		tland, if any? (Check all that apply)	
				stream is associated with the we	tianu, ii any: (oneok an that apply)	
			ckwater wnwater			
		Tida	al (if tidal.	check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both	
1	,					
/	1			ea on a coastal island? 🔲 Yes		0
	Is th	e asses	sment ar	ea's surface water storage capac	city or duration substantially altered by b	peaver?
	th a G	theck ane asses ssessme SS ∐A	box in ea sment are ent area b VS ⊠A ∏B	ach column. Consider alteration to be a. Compare to reference wetland ased on evidence of alteration. Not severely altered Severely altered over most of the ased importation, fire-plow lanes, ski	assessment area condition metric to the ground surface (GS) in the assessment if applicable (see User Manual v1.0). If a assessment area (ground surface alteration idder tracks, bedding, fill, soil compaction, disturbance, herbicides, salt intrusion [whicial hydrologic alteration)	examples: vehicle tracks, excessive obvious pollutants) (vegetation structure
	2. 8	Surface :	and Sub-	Surface Storage Capacity and Du	ıration – assessment area condition met	ric
	() () w a ()	Check a Sub). Co S) for No vater onl applicable Surf B B	box in e onsider bo rth Caroli y, while a e. Sub ⊠A □B □C	ach column. Consider surface softh increase and decrease in hydrona hydric soils for the zone of influent ditch > 1 foot deep is expected. Water storage capacity and duration water storage capacity or duration water storage capacity or duration change) (examples: intensive ditchange)	storage capacity and duration (Surf) and sology. Refer to the NRCS Scope and Efferience of ditches in hydric soils. A ditch soil to affect both surface and sub-surface on are not altered. If are altered, but not substantially (typically, are substantially altered (typically, alteration, fill, sedimentation, channelization, diversity).	ub-surface storage capacity and duration ct Guide (see User Manual v1.0 Appendix I foot deep is considered to affect surface water. Consider tidal flooding regime, if not sufficient to change vegetation).
				dams, stream incision, sewer lines		
	3. \	Nater St	orage/Su	rface Relief – assessment area/v	vetland type condition metric	the wetland type (M/T)
	(Check a	box in ea	ch column. Select the appropriate	e storage for the assessment area (AA) and	une welland type (w r).
`) (AA □A □B □C □D □D	WT □A □B □C ☑D □E	> 50% of the wetland type with de > 50% of the wetland type with de	pressions able to pond water > 2 feet pressions able to pond water 1 to 2 feet ssions able to pond water 6 inches to 1 foot ssions able to pond water 3- to 6-inches der	

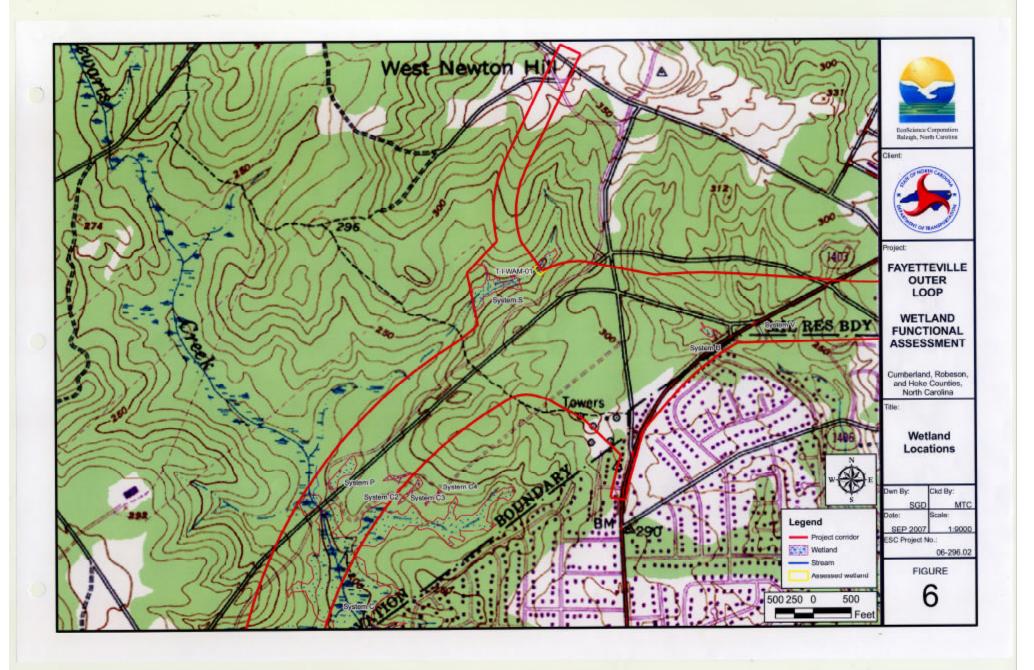
~ 4.	Soil Texture/Structure – assessment area condition metric										
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). \[\textsqr{A} \text{Sandy soil} \]										
	Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) Predominantly characterized by other, mineral soil (no mottling)										
	☐D Gleyed mineral soil (F2, S4) ⊠E Soil ribbon < 1 inch										
	□F Soil ribbon ≥1 inch □G No peat or muck presence										
	A peat or muck presence (A6, A7, A8, A9, A10, F1, S1) Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)										
5.	Discharge into Wetland – opportunity metric										
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub										
	□B □B Little or no evidence of pollutants or discharges entering the assessment area Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area										
	Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)										
6.	Land Use – opportunity metric										
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.										
	WS 5M 2M A A A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)										
	☑B☑B> 30% impervious surfaces without stormwater BMPs☐C☐C☐C☐C10 to 30% impervious surfaces										
	D D S 10% impervious surfaces E DE DE Old urban development (pink areas on USGS 7.5-minute quadrangles)										
	☐F ☐F New adjacent development ☐G ☐G ☐G Confined animal operations (or other local, concentrated source of pollutants)										
	☐H ☐H ≥20% coverage of pasture without riparian buffer										
~ /	□J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer										
	□L □L ≥20% coverage of maintained grass/herb										
	M M Silvicultural land with disturbance < 5 years old N N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.										
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)										
	⊠Yes □No If No. Skip to next metric										
	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine widths of channels/braids for a total stream width.										
	⊠Yes □No Is stream or other open water sheltered or exposed?										
	 Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic. 										
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric										
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed.										
	WT WC RB (if applicable) ⊠A ⊠A ≥100 feet										
	□B □B From 80 to < 100 feet										
	D D From 40 to < 50 feet										
	☐E ☐E From 30 to < 40 feet ☐F ☐F ☐F From 15 to < 30 feet										
	☐G ☐G From 5 to < 15 feet ☐H ☐H ☐H < 5 feet										

1		Inundation Duration – assessment area condition metric									
		Answer for assessment area dominant landform. X									
		Fyidence of saturation, without evidence of inundation									
		Evidence of long-duration inundation (7 to 30 consecutive days or more)									
	10.	Indicators of Deposition – assessment area condition metric Consider recent deposition only (no plant growth since deposition).									
	/										
	☐C Sediment deposition is excessive and is overwhelming the wetland.										
	11.	1. Wetland Size – wetland type/wetland complex condition metric									
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A So00 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres E From 10 to < 25 acres F F From 5 to < 10 acres G G G From 1 to < 5 acres H H H H From 0.5 to < 1 acre I I I From 0.1 to < 0.5 acre K K K K K < 0.01 acre									
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)									
		□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.									
	13.	Connectivity to Other Natural Areas – landscape condition metric									
		Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC MA									
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)									
	14.	Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,									
		two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years oid. Consider the eight									
		main points of the compass. ⊠A No artificial edge within 150 feet in all directions									
		B No artificial edge within 150 feet in four to seven directions									
	45	An artificial edge occurs within 150 feet in more than four directions or assessment area is deal-cut Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)									
	15.	MA Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate									
		species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic vegetation severely altered from reference in composition.									
		species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.									
	16	. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)									
		□ A Vegetation diversity is high and is composed primarily of native species. □ B Vegetation diversity is low or has > 10% cover of exotics. □ C Vegetation is dominated by exotic species.									

•	17.	Veget	ative S	tructure	– assessme	ent area/wetla	and type c	ondition m	etric					
				ion prese										
			ivaluat∈ ∃A		t coverage of v	of vegetation	for marsh	es only						
		_]B		overage of v									
)	S	heck a tructur A	a box in	each colun		stratum. ent area (/	Evaluate AA) and the	this portion wetland typ	of the e (WT)	metric fo	or non-ma ly.	arsh wetlands.	Consider
			A]A]B]C	□A ⊠B □C	Canopy pre	sed, or nearly sent, but ope arse or absen	ned more	ith natural g than natural	aps associate gaps	ed with	natural pr	ocesses		
		Z C]A]B]C	□A ⊠B □C	Moderate d	story/sapling ensity mid-sto apling layer sp	ory/sapling							
		\boxtimes]A]B]C	□A ⊠B □C		b layer ensity shrub l sparse or ab								
]A]B]C	□A □B ⊠C	Herb layer s	layer ensity herb la sparse or abs								
	10		_	on abser		4! _								
	10.	□A □B		e snags (condition n (more than o		nt (> 12-ind	ches DBH, o	or large relativ	ve to sp	ecies pres	ent and la	ndscape stabilit	y).
	19.	Diame	ter Cla	ss Distril	bution – wet	land type co	ndition m	etric						
		□A	Mos	t canopy	trees have st	ems > 6-inch	es in diam	eter at brea	st height (DBI	H); man	y large tre	es (> 12-ir	nches DBH) are	
		⊠в	pres Mos		trees have st	ems between	6- and 12	-inches DBI	H. few are > 1	2-inch i	DBH			
		□с				inches DBH			.,					
:	20.	Large \	Woody	Debris -	- wetland ty	pe condition	metric							
		Include			and natural		(> 12 inch	oc in diamo	or orlares w	alativa t			nd landscape st	1.99. \
_		⊠B	Not A	4 1093 (III	ore than one) are present	(~ 12-11101)	es in diame	er, or large re	elative t	o species	present ar	ia ianascape st	ability).
	21.	Vegeta	tion/O	pen Wate	er Dispersio	n – wetland t	ype/open	water cond	ition metric	(evalua	te for No	n-Tidal Fr	eshwater Mars	h only)
、 /		Select :	the figu	ire that b	est describes	s the amount	of interspe	ersion betw	een vegetatio	on and	open wate	er in the gr	owing season.	Patterned
		areas ir	ndicate	vegetate	d areas, whil	e solid white a ∏B	areas indic	ate open wa	ater. □C		Г	חר		
			20660	~GJ/	/		7							
_														
_	_					e condition n			161					
L	_ Ye	es ⊠i	INO	Has the N	I.C. Environr	nental Manag	ement Cor	nmission cl	assified the a	ssessm	ent area a	ıs "Unique	Wetlands" (UW	'L)?"
 N	lote:		***************************************	OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTOO OOOTO	***************************************							**************************************	· Acronius and acronius and acronius and acronius and acronius and acronius and acronius and acronius and acro	
·		-												

Wetland Site Name	N-I-WAM01	Date of Assessment 9/7/07					
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience				
Presence of str	ressor affecting assessment area (Y/N)	YES					
	Assessment Form (Y/N)	NO					
Presence of reg	gulatory considerations (Y/N)	YES					
Wetland is inte	nsively managed (Y/N)	NO					
Wetland may b	e a high-quality riverine wetland (Y/N)						
Sub-function Rating	summary						
Function	Sub-function	Metrics	Rating				
Hydrology	Surface Storage and Retention	Condition	HIGH				
	Sub-surface Storage and Reten	ition Condition	HIGH				
Water Quality	Pathogen Change	Condition	LOW				
		Condition/Opportunity	MEDIUM				
		Opportunity Presence	(Y/N) YES				
	Particulate Change	Condition	HIGH				
		Condition/Opportunity	HIGH				
		Opportunity Presence	(Y/N) YES				
	Soluble Change	Condition	HIGH				
		Condition/Opportunity	HIGH				
		Opportunity Presence	(Y/N) YES				
	Physical Change	Condition	HIGH				
		Condition/Opportunity	HIGH				
		Opportunity Presence	(Y/N) YES				
	Pollution Change	Condition	X				
		Condition/Opportunity	X				
		Opportunity Presence	(Y/N) X				
Habitat	Physical Structure	Condition	MEDIUM				
	Landscape Patch Structure	Condition	HIGH				
	Vegetation Composition	Condition	LOW				
	Uniqueness	Condition	NO				
Function Rating Sur	nmary						
Function		Metrics	Rating				
Hydrology		Condition	HIGH				
Water Quality		Condition	HIGH				
		Condition/Opportunity	HIGH				
		Opportunity Presence	(Y/N) YES				
Habitat		Condition	MEDIUM				
Overall Wetland	Rating HIGH						





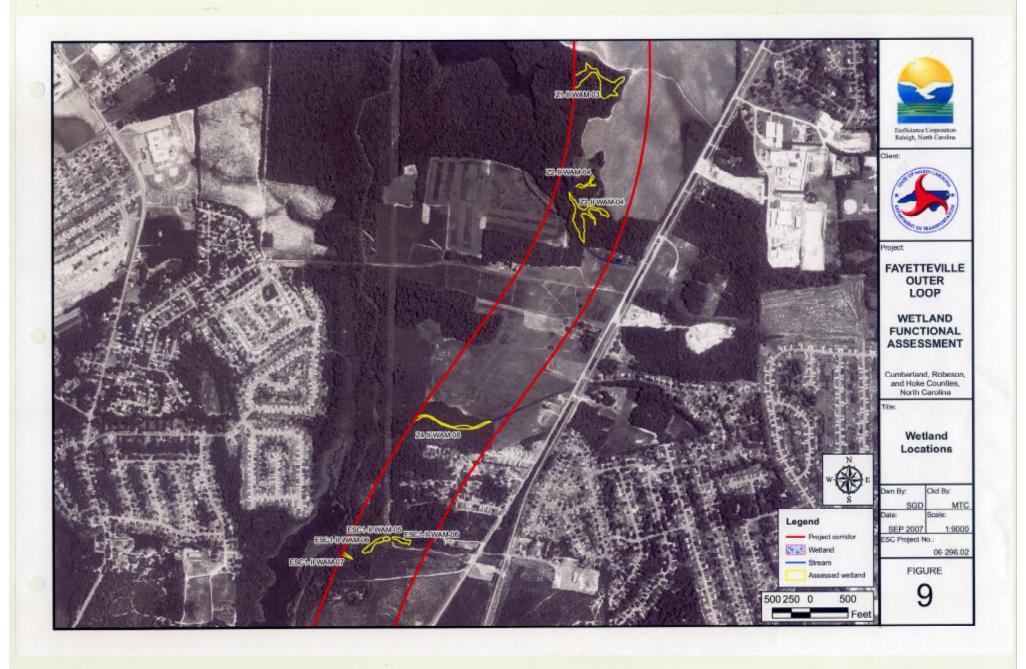
1		Site Name		Date	9/7/07
ĺ		tland Type		Assessor Name/Organization	AS, RA/ EcoScience
_		Ecoregion		Nearest Named Water Body	Stewart's Creek
		River Basir		USGS 8-Digit Catalogue Unit	03030004
1	Te	s 🗵 No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.108764, -79.014783
	Is the asser Regulatory Select all the	of stressor le and/or me, within 10 ydrological urface and eptic tanks, gns of veg- abitat/plant ssment ar Considera et apply to ladromous derally pro	rs affecting the assessment area (make note below if evidence of stressor) years). Noteworthy stressors include modifications (examples: ditches, danguarder discharges into the wet underground storage tanks (USTs), hetation stress (examples: vegetation recommunity alteration (examples: mode intensively managed? Yes tressors that are present. The properties of the assessment area. If is the assessment area.	ay not be within the assessment area) ors is apparent. Consider departure from a, but are not limited to the following. The sever dams, dikes, berms, ponds, eland (examples: discharges containing og lagoons, etc.) mortality, insect damage, disease, storm wing, clear-cutting, exotics, etc.) No g of water, Fort Bragg	35.108764, -79.014783 reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
1		blicly owne C. Division C. Division	cent to or associated stream drains to ed property of Coastal Management Area of Envir of Water Quality best usage classifica CNHP reference community	a Primary Nursery Area onmental Concern (AEC) (including buffe tion of SA or supplemental classifications	er) s of HQW, ORW, or Trout
	What type o ⊠ Bla □ Bro □ Tid	of natural so tickwater ownwater al (if tidal,	check one of the following boxes)	nd, if any? (Check all that apply) ☐ Lunar ☐ Wind ☐ Both ☑ No	
ı	s the asses	sment are	a's surface water storage capacity	or duration substantially altered by be	aver? Yes 🛭 No
1.	Check a the asses assessme	box in each	sed on evidence of alteration. lot severely altered severely altered over most of the assesedimentation, fire-plow lanes, skidder	e ground surface (GS) in the assessmer pplicable (see User Manual v1.0). If a ressent area (ground surface alteration extracks, bedding, fill, soil compaction, ourbance, herbicides, salt intrusion (whom	camples: vehicle tracks, excessive
2.	Surface a			on – assessment area condition metric	
	Check a (Sub). Co	box in eac onsider bot th Carolina ⁄, while a Sub ⊠A W ⊒B W	ch column. Consider surface storage in increase and decrease in hydrology a hydric soils for the zone of influence ditch > 1 foot deep is expected to a value attention are storage capacity and duration are storage capacity or duration are storage capacity or duration are storage capacity or duration are storage capacity or duration are storage capacity or duration are storage capacity or duration are storage capacity or duration are storage capacity or duration are storage capacity or duration are storage.	ge capacity and duration (Surf) and sub. Refer to the NRCS Scope and Effect of ditches in hydric soils. A ditch ≤1 for affect both surface and sub-surface was enot altered.	-surface storage capacity and duration Guide (see User Manual v1.0 Appendix to deep is considered to affect surface ter. Consider tidal flooding regime, if
•		ch da	ange) (examples: intensive ditching, ams, stream incision, sewer lines, soil	substantially aftered (typically, afteration s fill, sedimentation, channelization, diversi compaction).	sufficient to requit in vegetation
3.			ace Relief – assessment area/wetlar		
	Check a b	ox in each	n column. Select the appropriate stor	age for the assessment area (AA) and th	e wetland type (WT).
)	AA \ □A [□B [□C [□D [NT □A > □B > ⊠C >	50% of the wetland type with depressi 50% of the wetland type with depressi 50% of wetland type with depressions	ions able to pond water > 2 feet ions able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot able to pond water 3- to 6-inches deep	

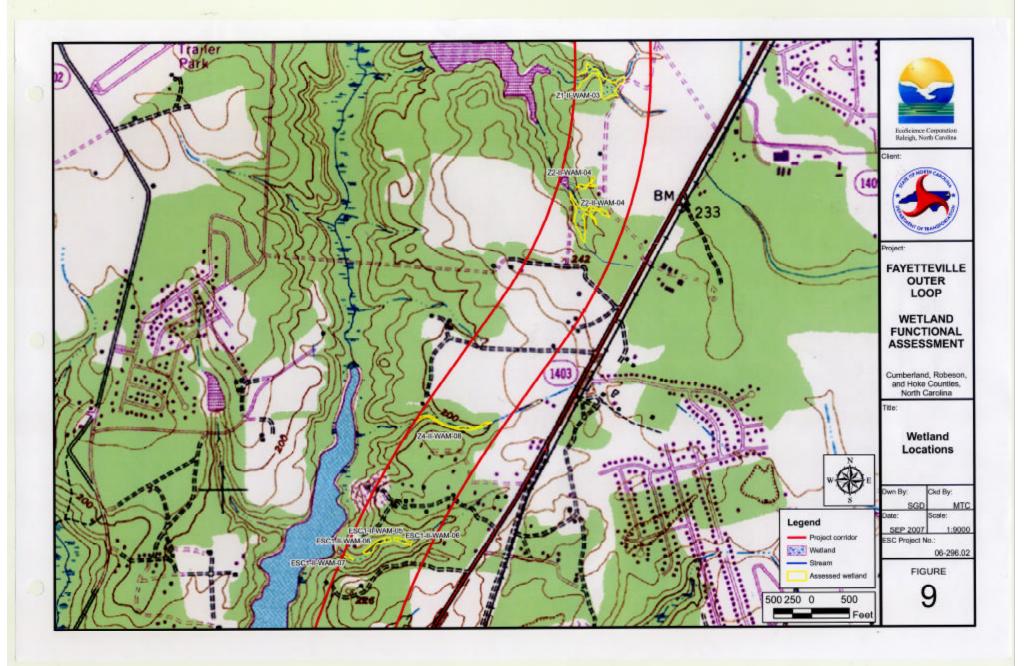
Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the toy National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sardy soil	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Males soil observations within the top foal National Technical Committee for Hydrics Sibin segment indications are noted use most recent quidence). A Sandy soil of the Predominanty characterized by matted (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) Committee of the predominanty characterized by other, mineral soil (f0, matting) Cloyed mineral soil (F2, S5, S6) Cloyed a box in each column. Consider surface plotted on high soil (F2, F10, S1) Cloud Single soil (F2, S5, S6) Cloyed a box in each column. Consider surface discharges endering the sessessment area (UST), etc. Cloyed Single soil (F2, S5, S6) Cloyed Single soil (F2, S5, S6) Cloyed Single soil (F2, S5, S6) Cloyed Single soil (F2, S5, S6) Cloyed Single soil (F2, S5, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Single soil (F2, S6, S6) Cloyed Sing	.4	Soil Texture/Structure – assessment area condition metric
C Predominantly characterized by other, mineral seil (no mottling)	C Consideration Consider		Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil
Serial Description	Service Serv		□C Predominantly characterized by other, mineral soil (no mottling) □D Gleved mineral soil (F2, S4)
H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)	A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)	\ /	⊠F Soil ribbon ≥1 inch
Peat or muck soit (histosol or histic epipedon) (A1, A2, A3)	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)		
Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Surf) sub-surface pollutants or discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf	Check a box in each column. Consider surface pollutants or discharges (Suf) and sub-surface pollutants or discharges (Sub) Sard Suf Suf Suf Suf Suf Suf Suf Suf Suf Suf		
Surf Sub	Surf Sub	5.	
B	B B Noticeable evidence of pollularis or discharges entering the wedand and stressing, but not overwhelming the treatment capacity of the assessment area Noticeable evidence of pollularis or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)		Surf Sub
Noticeable evidence of poliutants or discharges (pathogen, particulate, or soluble) entering the assessment area an potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation) 6. Land Use – opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (ZM). Effective riparian buffers are considered to be 50 feet wide in the Co Plain and Pledmont and 30 feet wide in the Mountains. WS 5M 2M A A A A S0% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential) B B B A S0% impervious surfaces without stormwater BMPs C C C C C C C C C 10 to 30% impervious surfaces without stormwater BMPs C C C C C C C C C C C C 10 to 30% impervious surfaces B B C C C C C C C C C C C C C C C C C	C		B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
6. Land Use – opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 21 and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Co Plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential) SC SC SC To to 30% impervious surfaces without stormwater BMPs 30% impervious surfaces without stormwater BMPs 10 SC SC SC SC To to 30% impervious surfaces without stormwater BMPs 10 SC SC SC SC SC To to 30% impervious surfaces without stormwater BMPs 10 SC SC SC SC SC SC SC SC SC SC SC SC SC	6. Land Use - opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (VIS), within 5 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coustain Plann and Piedment and 30 feet wide in the Mountains. WIS 5M 2M A A A A A A A A A A A A A A A A A A		□C Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Co Plain and Pledment and 30 feet wide in the Mountains. WS 5M 2M A A A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential) B B B B > 30% impervious surfaces without stormwater BMPs C C C C 10 to 30% impervious surfaces B C B C 10 to 30% impervious surfaces C D D D D C 10% impervious surfaces C C C C 10 to 30% impervious surfaces C C C C C 10 to 30% impervious surfaces C C C C C 10 to 30% impervious surfaces C C C C C 10 to 30% impervious surfaces C C C C C 10 to 30% impervious surfaces C C C C C 10 to 30% impervious surfaces C C C C C 10 to 30% impervious surfaces C C C C C C 10 to 30% impervious surfaces C C C C C C 10 to 30% impervious surfaces C C C C C C C 10 to 30% impervious surfaces C C C C C C C 10 to 30% impervious surfaces C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C C C C C 10 to 30% impervious surfaces C C C C C C C C C C C C C C C C C C C	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (VIS), within 5 miles and within the watershed draining to the assessment area (ZM). Effective riparian buffers are considered to be 50 feet wide in the Mountains. S	6.	
and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Co Plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M A A A A A A A A A A A A A A A A A A A	A within the watershed draining to the assessment area (ZM). Effective riparian buffers are considered to be 50 feet wide in the Kountains. Wish and Pethodon and 30 feet wide in the Mountains. Wish and Pethodon and 30 feet wide in the Mountains. Wish 2 M		Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources designed to accompany
A	A		and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.
B	Section Sec		□A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		□B □B > 30% impervious surfaces without stormwater BMPs
F	G		□D □D < 10% impervious surfaces
G	G G G Confined animal operations (or other local, concentrated source of pollutants)		
			☐G ☐G Confined animal operations (or other local, concentrated source of pollutants)
J	J		⊔⊓ ⊔Н ≥20% coverage of pasture without riparian buffer
N	N		□J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer
M	M		□\\ □\\ ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage overbank flow from affecting the assessment area. 7. Wetland Acting as Vegetated Buffer – assessment area condition metric Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) Yes No	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area. 7. Wetland Acting as Vegetated Buffer – assessment area condition metric Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) Yes		☐M ☐M Silvicultural land with disturbance < 5 years old
Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) Yes No	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) Yes	7	☐N ☐N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, coming widths of channels/braids for a total stream width. ≤15-feet wide > 15-feet wide Not Applicable Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water? Yes No Is stream or other open water sheltered or exposed? Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic. Exposed – adjacent open water with width ≥2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥2500 feet or regular boat traffic. Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland componly be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has be removed or disturbed. WT WC RB (if applicable) RB RECORD	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine widths of channels/braids for a total stream width. <	′.	Is the assessment area within 50 feet of a stroom or other open waters ("law as a stroom or other open waters)."
Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, comb widths of channels/braids for a total stream width. □≤15-feet wide □> 15-feet wide □Not Applicable Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water? □Yes □No Is stream or other open water sheltered or exposed? □Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet or regular boat traffic. 8. Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and no only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has be removed or disturbed. WT WC RB (if applicable) □A ≥100 feet	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine widths of channels/braids for a total stream width. Stream width Not Applicable		Livo Zivo ii ivo, skib to hext meinc
□ ≤15-feet wide □ > 15-feet wide □ Not Applicable Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water? □ Yes □ No Is stream or other open water sheltered or exposed? □ Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic. □ Exposed – adjacent open water with width ≥2500 feet or regular boat traffic. 8. Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex metric (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and not only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has be removed or disturbed. WT WC RB (if applicable) □ A □ A ≥ 100 feet	Steam or other open water sheltered or exposed? Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent or exposed or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic. Exposed – adjacent open water with with ≥ 2500 feet or regular boat traffic. Exposed – a		Stream width (Stream width is normal flow width fordinary high water to ordinary high water). If the stream is appeterment in the stream is appeterment in the stream is appeterment.
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only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has be removed or disturbed. WT WC RB (if applicable) □ A □ A ≥ 100 feet	only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed. WT WC RB (if applicable) NA NA NA NA ≥100 feet B B B From 80 to < 100 feet C C C From 50 to < 80 feet D D D From 40 to < 50 feet F F F From 15 to < 30 feet G G G From 5 to < 15 feet		Check a box in each column. Select the appropriate width for the wetland type at the accessment area (AVT) the well and
WT WC RB (if applicable) ⊠A ⊠A □A ≥100 feet	WT WC RB (if applicable) □A □A ≥100 feet □B □B □B From 80 to < 100 feet □C □C □C From 50 to < 80 feet □D □D □D From 40 to < 50 feet □E □E □E From 30 to < 40 feet □F □F □F From 15 to < 30 feet □G □G □G From 5 to < 15 feet		only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Peccella note if a potential of the outer channels of an
⊠A ⊠A ⊇100 feet	□A □A ≥100 feet □B □B □B From 80 to < 100 feet □C □C □C From 50 to < 80 feet □D □D □D From 40 to < 50 feet □E □E □E From 30 to < 40 feet □F □F □F From 15 to < 30 feet □G □G □G From 5 to < 15 feet		The real of distances.
	□B □B □B From 80 to < 100 feet □C □C □C From 50 to < 80 feet □D □D □D From 40 to < 50 feet □E □E □E From 30 to < 40 feet □F □F □F From 15 to < 30 feet □G □G □G From 5 to < 15 feet		· · · · · · · · · · · · · · · · · · ·
	□D □D □D From 40 to < 50 feet □E □E □E From 30 to < 40 feet □F □F □F From 15 to < 30 feet □G □G □G From 5 to < 15 feet		□B □B From 80 to < 100 feet
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) □E □E □E From 30 to < 40 feet)	□E □E From 30 to < 40 feet
☐F ☐F ☐F From 15 to < 30 feet			☐F ☐F From 15 to < 30 feet
			☐ ☐ ☐ ☐ From 5 to < 15 feet ☐ ☐ ☐ ☐ ☐ ☐ ☐ ← < 5 feet

		andation Duration – assessment area condition metric					
		Answer for assessment area dominant landform. A Evidence of short-duration inundation (< 7 consecutive days) B Evidence of saturation, without evidence of inundation C Evidence of long-duration inundation (7 to 30 consecutive days or more)					
_	10.	Indicators of Deposition – assessment area condition metric					
		Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels. B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland.					
	11.	Wetland Size – wetland type/wetland complex condition metric					
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A >500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F F F From 5 to < 10 acres G G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre I I I From 0.1 to < 0.5 acre K K K K K K < 0.01 acre					
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)					
		□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.					
	13.	Connectivity to Other Natural Areas – landscape condition metric Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if					
		Check appropriate box(es). This metric refers to the landscape patch, the configuration appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres From 10 to < 50 acres C C To acres Wetland type has a poor or no connection to other natural habitats					
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)					
	14.	Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,					
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent reatures such as not two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Comain points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut						
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)					
		 ✓ Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. ✓ Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓ Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species. 					
	16	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
		 ☐A Vegetation diversity is high and is composed primarily of native species. ☐B Vegetation diversity is low or has > 10% cover of exotics. ☐C Vegetation is dominated by exotic species. 					

	,17.	Vege	tative St	ructure -	- assessment a	rea/wetland ty	pe conditio	n metric					
			Vegetatio										
					coverage of ve		arshes only	/					
					overage of veget								
_	\	C S	Check a	box in	each column for ace above the a	or each stratu	m. Evalua	ate this por	tion of the	he metric fo	or non-mars	h wetlands.	Consider
)	P	4A 1	<u> </u>									
			⊠B [⊒A ⊠B ⊒C	Canopy closed, Canopy present Canopy sparse	, but opened m	d, with natu ore than na	ral gaps asse tural gaps	ociated wi	th natural pro	ocesses		
		Ī]B [⊒A ⊒B ⊠C	Dense mid-story Moderate densit Mid-story/sapling	y mid-story/sap							
			<u>]</u> Β [⊒в	Dense shrub lay Moderate densit Shrub layer spar	y shrub layer							
]B [⊠A ⊒B	Dense herb laye Moderate densit Herb layer spars	er y herb layer							
		□ V	egetation	n absent	t								
	18.	Snags	s – wetla	nd type	condition metri	С							
		⊠a □B	Large Not A	snags (r	more than one) a	re present (> 1	2-inches DE	BH, or large r	elative to	species pres	ent and land	scape stability	').
	19.	Diame			ution – wetland								
		⊠A	Most	canopy ti	rees have stems	> 6-inches in d	iameter at b	reast height	(DBH); m	any large tre	es (> 12-inch	nes DBH) are	
		□в	prese Most		rees have stems	between 6- and	d 12-inches	DBH few ar	e > 12-inc	h DBH			
		□с	Most	canopy tr	rees are < 6-inch	es DBH or no t	rees.	DDI I, ICW ai	C = 12-1110	OBI 1.			
	20.	Large	Woody I	Debris –	wetland type co	ondition metric	:						
		Include	e both ma	n-made	and natural debr	is piles.							
		⊠A ⊟B	Large Not A	logs (mo	ore than one) are	present (> 12-i	inches in di	ameter, or la	rge relativ	e to species	present and	landscape sta	bility).
	121	_		on Mato	r Dianaraian								
	/21.	Select	the figure	e that be	r Dispersion – vest describes the	etiand type/of	erspersion b	etween veg	etric (eval	iuate for No	n-Tidal Fres	hwater Marsh	only)
		areas i	indicate v	egetated	l areas, while sol	id white areas i	ndicate ope	n water.	olation an	d open wate	i iii ale giov	ning season.	ratterneu
		Q							\]D		
		1											
	22.	Habita	t Unique	ness – v	vetland type co	ndition metric							
	□Y€				.C. Environmenta		Commissio	n classified t	the assess	sment area a	s "Unique W	etlands" (I I\A/I	12"
						J		.,		omoni area a	o omque w	Cliands (OVV	-):
	Note	S	99/96/Jr. do 1 Mailleadh dhliainn cyngwegy	***************************************	n in Market (1964 - 1964) da de constante de des cons erves de constante de popular de debido de <mark>me</mark> nuencia.		Address of the Control of the Contro		in terminal agraphic paragraphic constraints	randa da da da da da da da da da da da da d	ender visit visit en de service de la constant de l		MOTORIOS SPOSONOS COMPANIOS CONTRACTOR SPOSONOS CONTRACTOR CONTRAC

Wetland Site NameT-I-WAM01		Date of Assessment 9/7/07		
Wetland Type	Headwater Wetland	Assessor Name/Organization	AS, RA/ EcoScience	
Presence of str	ressor affecting assessment area (Y/N)	YES		
Notes on Field	Assessment Form (Y/N)	NO		
Presence of reg	gulatory considerations (Y/N)	YES		
Wetland is inte	nsively managed (Y/N)	YES		
Wetland may b	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	g Summary			
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	LOW	
	Sub-surface Storage and Reten	tion Condition	MEDIUM	
Water Quality	Pathogen Change	Condition	LOW	
		Condition/Opportunity	MEDIUM	
Presence of s Notes on Field Presence of re Wetland is int Wetland may Sub-function Ratir Function Hydrology Water Quality Habitat		Opportunity Presence	(Y/N) YES	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Physical Change	Condition	LOW	
		Condition/Opportunity	LOW	
		Opportunity Presence	(Y/N) YES	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
Habitat	Physical Structure	Condition	MEDIUM	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	LOW	
	Uniqueness	Condition	NO	
Function Rating Sur	nmary			
Function		Metrics	Rating	
Hydrology		Condition	LOW	
Water Quality		Condition	MEDIUM	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
Habitat		Condition	MEDIUM	
Overall Wetland	Rating MEDIUM			





1	•	•		Date	9-6-07				
Г	Wet	land Site Name	Z1-II-WAM03	Assessor Name/Organization	EcoScience MC/JW				
		Wetland Type	Headwater Wetland Southeastern Plains	Nearest Named Water Body	Bones Creek 03030004				
- !	Lev	rel III Ecoregion	Southeastern Flams	USGS 8-Digit Catalogue Unit	35 056307 -79.024511				
	_	River Basin	Drocinitation WITHIN 40 III 5 I	Latitude/Longitude (deci-degrees)					
	Evide	Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past. Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past. Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past. Please circle and/or make note below if evidence of stressors include, but are not limited to the following. (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. Hydrological modifications (examples into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)							
	l .		ea intensively managed?	Yes 🛛 No					
	Desc	ribe effects of s	tressors that are present.						
	Sele	Anadromous Federally pr NCDWQ rip Wetland adj Publicly owr N C Divisio N.C. Divisio Designated at type of natura Blackwater	of the assessment area is fish offected species or State endanger arian buffer rule in effect acent to or associated stream drained property in of Coastal Management Area of NCNHP reference community is stream is associated with the next stream is associated with the next stream is associated.	red or threatened species ns to a Primary Nursery Area Environmental Concern (AEC) (including to suffication of SA or supplemental classification of the s	ouffer) nons of HQW, ORW, or Trout				
				N □ Luper □ Wind □ Both					
0		Tidal (if tidal, check one of the following solver)							
	. —			/es IXI NO	w heaver? ☐ Yes ☒ No				
	15 1	(I)U 455655110111.	curface water storage Cai	pacity or duration substantially altered b	y beaver? Yes 140				
		Ground Surface Check a box in the assessment assessment area GS VS	Condition/Vegetation Condition each column. Consider alteration area Compare to reference wetle a based on evidence of alteration Not severely altered Severely altered over most of the sedimentation, fire-plow lanes, alteration examples: mechanical discretive if appropriate), all	n – assessment area condition metric on to the ground surface (GS) in the asset and if applicable (see User Manual v1.0). The assessment area (ground surface altera skidder tracks, bedding, fill, soil compact cal disturbance, herbicides, salt intrusion tifficial hydrologic alteration)	ssment area and vegetation structure (VS) in If a reference is not applicable, then rate the tion examples: vehicle tracks, excessive tion, obvious pollutants) (vegetation structure [where appropriate], exotic species, grazing,				
	2.	e.	L Curtoso Storage Capacity and	l Duration – assessment area condition	metric				
	Effect Guide (see User Manual VI o Appendix h ≤ 1 foot deep is considered to affect surface ace water Consider tidal flooding regime, if cally, not sufficient to change vegetation)								
		□c □c	change) (examples: intensive	ditching, fill, sedimentation, channelization lines, soil compaction).	i, diversion, man-made bernis, beator				
	,	Water Storage	e/Surface Relief – assessment a	rea/wetland type condition metric opprate storage for the assessment area (A)	A) and the wetland type (** i)				
	3.	Chack a box							
		AA WT CA CA CB CB CC CB MD MC MD CB CD	> 50% of the wetland type will > 50% of the wetland type with c > 50% of wetland type with c > 50% of wetland type with c	th depressions able to pond water 1 to 2 fe th depressions able to pond water 6 inches to lepressions able to pond water 3- to 6-inch	et 1 foot				

4. Soil Texture/Structure – assessment area condition metric								
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). Sandy soil Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6). Predominantly characterized by other, mineral soil (no mottling).							
		Pregor	nınantıy	characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) characterized by other, mineral soil (no mottling) I soil (F2, S4)				
	⊠E □F		bon < 1 bon ≥ 1					
	⊠G □H	No pea	at or muc	ck presence				
	□.	Peat or	muck s	s presence (A6, A7, A8, A9, A10, F1, S1) soil (histosol or histic epipedon) (A1, A2, A3)				
5.				d – opportunity metric				
	Check Examp Surf	a box in les of sub Sub	n each -surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) e discharges include presence of nearby septic tank, underground storage tank (UST), etc				
	⊠A □B	⊠A □B	Notice	or no evidence of pollutants or discharges entering the assessment area eable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the nent capacity of the assessment area				
	□c	□c	Notice poten	eable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and tially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive tentation)				
6.	Land U	lse – opp		·				
	Check	all that a	pply. E	valuation of this metric involves a GIS effort with field adjustment. Consider courses drawing to access the				
	and wit	hin the wa nd Piedmo	itershed ont and (atershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles I draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal 30 feet wide in the Mountains				
	WS □A	5M □A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples				
	□в	□в	□в	industrial, commercial, and high-density residential) > 30% impervious surfaces without stormwater BMPs				
	□c ⊠d	□c ⊠d	□c	10 to 30% impervious surfaces				
	ΠE	□E	Ë	< 10% impervious surfaces Old urban development (pink areas on USGS 7 5-minute quadrangles)				
	□F □G	□ <u>F</u>	□F	New adjacent development				
	H	□G □H	□G □H	Confined animal operations (or other local, concentrated source of pollutants) ≥ 20% coverage of pasture without riparian buffer				
	₽.	₽.		≥ 20% coverage of pasture with effective riparian buffer				
	⊠K □J	⊠K □J	⊠K □J	≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer				
				≥ 20% coverage of maintained grass/herb				
		□M □N	□M	Silvicultural land with disturbance < 5 years old				
		٠,٠	٠٠,	Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.				
7.	Wetland	d Acting a	s Vege	tated Buffer – assessment area condition metric				
		KZ 1 00		ithin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric				
	Stream widths o	width (Str	eam wid	of the stream is anastomosed, combine for a total stream width [ordinary high water]) If the stream is anastomosed, combine for a total stream width				
	Widais 0	⊠≤ 15-f	eet wide	or a total stream width ☐ Not Applicable				
	Do roots	of assess ⊠Yes	sment aı ∐No	rea vegetation extend into the bank of the adjacent stream/open water?				
	Is stream	or other	open wa	ater sheltered or exposed?				
		Expos	ed – ad	djacent open water with width < 2500 feet <u>and</u> no regular boat traffic jacent open water with width ≥ 2500 feet <u>or</u> regular boat traffic.				
8.	Wetland	/Riparian	Buffer	Width – assessment area/wetland type/wetland complex metric				
	only be	olumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex ffer at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need inde of the water body. The riparian buffer is measured from the outside banks of the outer channels of an area buffer is described.						
	ariabion.	oscu syst	CITI IVIC	ake buffer judgment based on dominant landscape feature Record a note if a portion of the buffer has been				
	WT	or disturb)Cu	applicable)				
	□A	□A	⊠A	≥ 100 feet				
	⊠B	⊠B	B	From 80 to < 100 feet				
	□c □D			From 50 to < 80 feet From 40 to < 50 feet				
	□E	□E	ĘĒ	From 30 to < 40 feet				
	□F	<u>D</u> F	□F	From 15 to < 30 feet				
	□G □H	□G □H	□G □H	From 5 to < 15 feet < 5 feet				
				· o 1001				

_	Inundation Duration – assessment area condition metric
, 9.	
	Evidence of short-duration intuitional and a first individual of the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short intuition in the short in t
	The state of Deposition – assessment area condition metric
10.	Consider recent deposition only (no plant growth since deposition).
	Consider recent deposition only (no plant growth since deposition). Sediment deposition is not excessive, but at approximately natural levels Sediment deposition is excessive, but not overwhelming the wetland.
	B Sediment deposition is excessive and is overwhelming the wetland.
	the second transfer of the welland complex condition metric
11.	Wetland Size – wetland type/wetland complex condition metric Wetland Size – wetland type/wetland complex condition metric This metric evaluates three aspects of the wetland area. the Check a box in each column. Involves a GIS effort with field adjustment This metric evaluates three aspects of the wetland (FW) (if Check a box in each column. Involves a GIS effort with field adjustment This metric evaluates three aspects of the wetland (FW) (if Size – wetland type/wetland type). An observed beaver pond forms size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if Size – wetland type/wetland type/wetland type (WT).
	Check a box in each column. Involves a GIS effort with the contiguous wetland complex (WC), and the size of the contiguous, invested western forms size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, invested western forms size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, invested western forms size of the contiguous, invested western forms are considered boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver point forms applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver point forms applicable, see User Manual).
	applicable, see User idealized the entire width of the floodplain. Additionally, other weitarid types are
	INIT If accessment area is dieditod, out of
	WT WC FW (if applicable)
	☐ ☐ From 100 to < 500 acres
	C C From 50 to < 100 acres
	HE HE From 5 to < 10 acres
	G UG LG From 0.5 to < 1 acre
	H. Mi From 0.1 to < 0.5 acre
	J J From Lot to V acto
	□K □K < 0.01 acre 2. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
1	
	Wetland type is < 90% of the full extent of its flatters and the first state of the flatters and the first state of the flatters and the first state of the flatters and the first state of the flatters and the flatters and the first state of the flatters and the
4	the Other Natural Areas - landscape condition metric
,	
	Check appropriate box(es). This metric release to the suppropriate that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained tolds (LC) to the appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained tolds (LC) to the appropriate) that includes the wetland type is well-connected (WC) or loosely-connected (LC) to the agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the
•	landscape patch.
	WC LC
	Tipe From 100 to < 500 acres
	C From 50 to < 100 acres
	HE HE Wetland type has a poor or no connection to bliff hattird heart and heart hattird heart hattird heart hattird heart heart heart hattird heart he
	Check Yes or No. Signal System Syst
	The stand type condition metric
	14. Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges Artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges Artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from wetland type boundary to artificial edges include permanent features such as fields, development, Estimate distance from the features features for the features features for the features features features features features for the features f
	two-lane or larger roads (2 40-leet wide), same
	main points of the compass.
	 ☐A No artificial edge within 150 feet in four to seven directions ☐B No artificial edge within 150 feet in more than four directions or assessment area is clear-cut ☐C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	 ☐C An artificial edge occurs within 196 15. Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat) ☐A Vegetation is close to reference condition in species present and their proportions ☐ Lower strata composed of appropriate ☐ Vegetation is close to reference condition in species present and their proportions ☐ A Vegetation is close to reference condition in species present area
	Vegetation is close to reference condition in species species, with exotic plants absent or sparse within the assessment area species, with exotic plants absent or sparse within the assessment area species, with exotic plants absent or sparse within the assessment area species, with exotic plants absent or sparse within the assessment area species, with exotic plants absent or sparse within the assessment area species, with exotic plants absent or sparse within the assessment area.
	Vegetation is different from reletering communities of weedy native species that develop after devel
	characteristic of the welland type. The working present, but not dominant, over a large portion to the explorated by exotic
	Vacatation severely altered from recognition species or inappropriately composed of a second severely altered from recognition species or inappropriately composed of a second severely altered from recognition s
	clearing It also includes communities with solded process. Composition Expected strata are unnaturally absent of dominated by the strate of the composition of the c
	· · · · · · · · · · · · · · · · · · ·
	16. Vegetative Diversity – assessment area continuous means to the species \[\begin{array}{l} \text{Vegetation diversity is high and is composed primarily of native species} \end{array} \] \[\begin{array}{l} \text{Vegetation diversity is low or has > 10% cover of exotics} \end{array}
	□ A Vegetation diversity is high and is composed plantage of product of exotics □ B Vegetation diversity is low or has > 10% cover of exotics □ C Vegetation is dominated by exotic species.
	TIC Vegetation is dominated by the second se

47	V	tethre Structure, concernant exactinations the condition matrix
17.		tative Structure – assessment area/wetland type condition metric /egetation present
		Evaluate percent coverage of vegetation for marshes only
		☐A ≥ 25% coverage of vegetation
		□B < 25% coverage of vegetation
		Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
		structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
		☑A ☑A Canopy closed, or nearly closed, with natural gaps associated with natural processes
		☐B ☐B Canopy present, but opened more than natural gaps
		□C □C Canopy sparse or absent
		A Dense mid-story/sapling layer
		☑B ☑B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
		☐A ☐A Dense shrub layer
		☑A ☑A Derise sind layer ☑B ☑B Moderate density shrub layer
		□C Shrub layer sparse or absent
		□A □A Dense herb layer
		☑B Moderate density herb layer
		☐C ☐C Herb layer sparse or absent
		/egetation absent
18.		s – wetland type condition metric
	ØA □B	Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability) Not A
19.		eter Class Distribution – wetland type condition metric
	⊠A	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are present.
	□в	Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH
	□с	Most canopy trees are < 6-inches DBH or no trees
20.	Larg	Woody Debris – wetland type condition metric
	Inclu	le both man-made and natural debns piles
	MA	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability)
	□В	Not A
21.	Veg	ation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
		t the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
	area	ındıcate vegetated areas, while solid white areas ındıcate open water □A □B □C □D
22	LJ_6	at Uniqueness – wetland type condition metric
□Y	es	No Has the N C Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
Note	_	
Fran	nes 9	84 and 9885

Notes on Field Presence of reg Wetland is inte Wetland may b Sub-function Rating Function Hydrology Habitat Function Rating Function Hydrology Water Quality Habitat	74 H MANAGO	Date of Assessment	9-6-07 EcoScience MC/JW		
	Z1-II-WAM03 Headwater Wetland A	ssessor Name/Organization			
	Headwater Metiand		-		
	WINN	NO			
	ressor affecting assessment area (Y/N)	YES			
	Assessment Form (T/N)	NO			
	egulatory considerations (Y/N)	NO NO			
Wetland is inte	ensively managed (1/N)				
Wetland may	be a high-quality riverine wetland (Y/N)				
ub-function Ratin	ng Summary	Metrics		Rating	
unction	Sub-function	Condition		HIGH	
lydrology	Surface Storage and Retention	- -	_	HIGH	
	Sub-surface Storage and Reten	Condition		HIGH	
Water Quality	Pathogen Change	Condition/Opportunity	-	HIGH	
Presence of stra Notes on Field of Presence of reg Wetland is inter Wetland may be Sub-function Rating Function Hydrology Habitat Function Rating Function Hydrology Water Quality		Opportunity Presence		NO	
		Condition		HIGH	
	Particulate Change	Condition/Opportunit		Х	
		Opportunity Presence		X	
		Condition	,	MEDIUM	
	Soluble Change	Condition/Opportunit	V	HIGH	
		Opportunity Presence		YES	
		Condition	· (,	HIGH	
	Physical Change	Condition/Opportuni	hv	HIGH	
		Opportunity Present		YES	
		Condition	(17-7	X	
Notes on Field Presence of re Wetland is inte Wetland may b Sub-function Ratin Function Hydrology Habitat Function Rating Function Hydrology Water Quality	Pollution Change	Condition/Opportuni	tv	X	
		Opportunity Present		x	
		Condition		HIGH	
Habitat	Physical Structure	Condition		LOW	
Notes on Field Presence of re Wetland is inte Wetland may Sub-function Ratir Function Hydrology Habitat Function Rating Function Hydrology Water Quality Habitat	Landscape Patch Structure	Condition		MEDIUM	
	Vegetation Composition	Condition		NO	
	Uniqueness	Obligation			
Function Rating	Summary	N. C.		Rating	
		Metrics		HIGH	
Hydrology		Condition		HIGH	
·		Condition	nitv	HIGH	
		Condition/Opportui Opportunity Presei		YES	
		• •	100 (1114)	MEDIUN	
		Condition			

- [Wetland Site Name		Date	9-6-07						
ļ	Wetland Type		Assessor Name/Organization	EcoScience JW/MC						
	Level III Ecoregion		Nearest Named Water Body	Bones Creek						
١	River Basir		USGS 8-Digit Catalogue Unit	03030004						
۲	☐ Yes ⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35 052466 -79 025985						
	Please circle and/or m (for instance, within 10	ake note below if evidence of stress years) Noteworthy stressors include modifications (examples ditches, disches, discharges into the wounderground storage tanks (USTs),	n mortality, insect damage, disease, storm of owing, clear-cutting, exotics, etc.)	otc.) obvious pollutants, presence of nearby						
		Describe effects of stressors that are present								
	Regulatory Consider Select all that apply to Anadromous Federally pro	the assessment area.	or threatened species							
	☐ NCDWQ ripa	rian buffer rule in effect	·							
	☐ Wetland adja	cent to or associated stream drains	to a Primary Nursery Area							
	■ N.C Division	of Coastal Management Area of En	vironmental Concern (AEC) (including buffication of SA or supplemental classification	er) s of HQW, ORW, or Trout						
1	What type of natural ☐ Blackwater ☐ Brownwater	stream is associated with the wetl	and, if any? (Check all that apply)							
1		check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both							
1	is the assessment ar	ea on a coastal island? 🔲 Yes	⊠ No							
		_	y or duration substantially altered by be	paver? Yes No						
1	. Ground Surface C	ondition/Vegetation Condition – a	ssessment area condition metric							
•	Check a box in earthe assessment are assessment area b GS VS ☑A ☑A ☐B	ach column. Consider alteration to be. Compare to reference wetland is ased on evidence of alteration. Not severely altered. Severely altered over most of the assed mentation, fire-plow lanes, skide	the ground surface (GS) in the assessment applicable (see User Manual v1 0). If a seessment area (ground surface alteration edger tracks, bedding, fill, soil compaction, esturbance, herbicides, salt intrusion (where	examples. vehicle tracks, excessive obvious pollutants) (vegetation structure						
2.	. Surface and Sub-S	jurface Storage Capacity and Dura	ation – assessment area condition metri	e.						
	Check a box in ea (Sub) Consider bo G) for North Carolin water only, while a applicable	ach column. Consider surface sto th increase and decrease in hydrolo as hydric soils for the zone of influer	rage capacity and duration (Surf) and sulpay. Refer to the NRCS Scope and Effect nce of ditches in hydric soils. A ditch ≤ 1 to affect both surface and sub-surface w	b-surface storage capacity and duration Guide (see User Manual v1 0 Appendix foot deep is considered to affect surface						
	□c □c	Water storage capacity or duration a change) (examples: intensive ditchir dams, stream incision, sewer lines, s	re altered, but not substantially (typically, n re substantially altered (typically, alteration ng, fill, sedimentation, channelization, diver soil compaction)	sufficient to result in vegetation						
3	3. Water Storage/Su	rface Relief – assessment area/we	tland type condition metric	the wetland type (WT)						
,	Check a box in ea	ch column. Select the appropriate	storage for the assessment area (AA) and	All Manager Ship ()						
•	AA WT AA DB CC DC MD ME ME	> 50% of the wetland type with depression > 50% of the wetland type with depression.	ressions able to pond water > 2 feet ressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches dee							

4.				assessment area condition metric				
	National	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance) A Sandy soil						
	Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4)							
	⊠E □F		on < 1 ina on ≥ 1 ina					
	⊠G	No peat	or muck	presence				
		A peat or Peat or	or muck p muck soi	resence (A6, A7, A8, A9, A10, F1, S1) I (histosol or histic epipedon) (A1, A2, A3)				
5.	Dischar	ge into V	Vetland -	opportunity metric				
	Check Example Surf	a box in es of sub- Sub	surface d	olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). discharges include presence of nearby septic tank, underground storage tank (UST), etc.				
	⊠A □B	⊠A □B	Noticea	no evidence of pollutants or discharges entering the assessment area able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ent capacity of the assessment area				
	□c	□c	Noticea potentia	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive intation)				
6.	Land U	se – oppo	ortunity r	metric				
	Check a within e	all that ap ntire upst an the wa	pply. Eva ream wat stershed o	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Differt feet wide in the Mountains.				
	WS	5M	2M					
	□A	□A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential)				
	ДВ	ДВ	□B	> 30% impervious surfaces without stormwater BMPs				
				10 to 30% impervious surfaces < 10% impervious surfaces				
	ΞĔ	□E	ĒΕ	Old urban development (pink areas on USGS 7 5-minute quadrangles)				
	턌	□F □G	□F □G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)				
		H	H	≥ 20% coverage of pasture without riparian buffer				
				≥ 20% coverage of pasture with effective riparian buffer				
	⊠K ∐J	⊠ĸ □1	□J □J	≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer				
				≥ 20% coverage of maintained grass/herb				
	□M	□M	□M	Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or				
	□и	Пи	Пы	overbank flow from affecting the assessment area				
7.				ated Buffer – assessment area condition metric				
	Is the a	ssessmer ⊠Yes	nt area wi ∐No	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric				
		width (St	ream wid	ith is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine for a total stream width.				
	Do roots	-15 ≥⊠ • of asses	feet wide	e				
		⊠Yes	□No					
	Is strea	Shell Shell	tered - ac	ater sheltered or exposed? djacent open water with width < 2500 feet <u>and</u> no regular boat traffic lacent open water with width ≥ 2500 feet <u>or</u> regular boat traffic				
8.				Width – assessment area/wetland type/wetland complex metric				
	(WC), a only be anastor	and the rip	oarian bu on one s stem. Ma	plumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (Fig. 1) and the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been				
	WT	WC		applicable)				
	⊠A	⊠A	⊠A	≥ 100 feet				
	□в	□в	□в	From 80 to < 100 feet From 50 to < 80 feet				
	□c			From 40 to < 50 feet				
	□D □E		뚪	From 30 to < 40 feet				
	□F	□F	□F	From 15 to < 30 feet From 5 to < 15 feet				
	⊟G ⊟H	□G □H	□G □H	< 5 feet				
	Шн	<u> </u>	٠.٠					

Į.	9	Inundat	ion Dura	ition – ass	essment area condition metric					
		Answer			a dominant landform					
		₽			duration inundation (< 7 consecutive days)					
		∐B ⊠C			ation, without evidence of inundation duration inundation (7 to 30 consecutive days or more)					
_				-	· · · · · · · · · · · · · · · · · · ·					
	\10.	Indicators of Deposition – assessment area condition metric								
					only (no plant growth since deposition)					
		⊠A □B			on is not excessive, but at approximately natural levels on is excessive, but not overwhelming the wetland					
		□c			on is excessive and is overwhelming the wetland					
	11.	Wetland Size – wetland type/wetland complex condition metric								
	• • • •		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the							
		size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if								
		applicabl	le, see U:	ser Manual	Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms.					
		a bounda	ary if it ex	xtends acro	oss the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column clear-cut, select "K" for FW column.					
		WT. 11 a	WC	FW (if ap						
		ΠÄ	ΠÃ		≥ 500 acres					
		□в	□в		From 100 to < 500 acres					
				=	From 50 to < 100 acres					
		□D □E			From 25 to < 50 acres From 10 to < 25 acres					
		□F	⊠F	=	From 5 to < 10 acres					
		⊠G	□G	□G	From 1 to < 5 acres					
		□H □H			From 0.5 to < 1 acre					
		남,	片		From 0.1 to < 0.5 acre From 0.01 to < 0.1 acre					
		∐ĸ	∐ĸ		< 0.01 acre					
	12.	Wetland	Intactne	ss – wetla	and type condition metric (evaluate for Pocosins only)					
		□A			e full extent (≥ 90%) of its natural landscape size					
		⊟в	Wetland	type is < 9	90% of the full extent of its natural landscape size.					
	13.	Connect			ıral Areas – landscape condition metric					
). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if					
		appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and								
		agrıcultur	re), or op	pen water	> 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the					
		landscap WC	e patch. LC							
		ΠÃ	ΠA	≥ 500 acr	res					
		□В	⊟в	From 100	to < 500 acres					
		⊠c	Πc		to < 100 acres					
		□D □E	□D □E	< 10 acres	to < 50 acres					
		냚	∐F		type has a poor or no connection to other natural habitats					
		Check Y	_		y, and a part of the part of t					
		□Yes			land type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)					
		⊠Yes	□No	Is the ass	sessment area subject to overbank flooding during normal conditions?					
	14.	Edge Eff	ect – we	tland type	condition metric					
		Estimate	distance	from wetla	and type boundary to artificial edges Artificial edges include permanent features such as fields, development,					
		two-lane	or larger	roads (≥ 40	0-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight					
				compass	ethin 150 feet in all directions					
					uthin 150 feet in four to seven directions					
					ccurs within 150 feet in more than four directions or assessment area is clear-cut					
	15.	Vegetativ	ve Comp	osition – a	assessment area condition metric (skip for marshes and Pine Flat)					
					to reference condition in species present and their proportions Lower strata composed of appropriate					
			species,	with exotic	plants absent or sparse within the assessment area					
		□в	Vegetation	on is differe	ent from reference condition in species diversity or proportions, but still largely composed of native species					
			characte	risuc of the	e wetland type. This may include communities of weedy native species that develop after clearcutting or					
			Vegetet	on covere	dudes communities with exotics present, but not dominant, over a large portion of the expected strata by altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic					
		□c	species :	OL COMBOSI OU SEAGLEI	ed of planted stands of non-characteristic species or inappropriately composed of a single species					
	46		•	-	essment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
	16.		ve Diver:	sity — asse	essement area condition motific (evaluate for mon-state) residents					
		_	Vegetati	ion diversity ion diversity	y is high and is composed primarily of native species y is low or has > 10% cover of exotics.					
		□B □C			nated by exotic species.					

17.	Vegeta	ative Structur	re – assessment area/wetland type condition metric
	⊠ V	egetation pre	esent ent coverage of vegetation for marshes only
		7A ≥ 25%	6 coverage of vegetation
	_	beels a box	% coverage of vegetation In each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	si	neck a box tructure in ali	rspace above the assessment area (AA) and the wetland type (WT) separately.
	Α	<u> W</u> T	Canopy closed, or nearly closed, with natural gaps associated with natural processes
		MA ⊠A B □B □C □C	Canopy present, but opened more than natural gaps Canopy sparse or absent
		DA DA DB DB MC ⊠C	Dense mid-story/sapling layer Moderate density mid-story/sapling layer Mid-story/sapling layer sparse or absent
		□A □A □B □B ☑C ☑C	Dense shrub layer Moderate density shrub layer Shrub layer sparse or absent
		□A □A □B □B ⊠C ⊠C	Moderate density herb layer
	□ v	egetation ab	
18.	Snag	s – wetland t	type condition metric
	□A ⊠B	Not A	ags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability)
19.	Diam	eter Class Di	istribution – wetland type condition metric
	⊠A		opy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
	□B □C	Most can	opy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH opy trees are < 6-inches DBH or no trees
20			oris – wetland type condition metric
	∏A ⊠B	Large log	made and natural debris piles. gs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability)
21	. Vege	tation/Open	Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Calar	at the figure th	hat best describes the amount of interspersion between vegetation and open water in the growing season in attended areas, while solid white areas indicate open water. □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
	•	GM	
_		itat Uniquene	ess – wetland type condition metric s the N C Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
L	Yes	⊠No Has	s the N C Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environmental Management Commission States and the Environment Commission States and the Enviro
N ₁	otes ames 9	9886 and 9887	7 (Northern fringe) 9888-9892 (Southern fringe)

	Date of Assessment	9-6-07 EcoScience JW/MC	
Riverine Swamp Forest As	ssessor Name/Organization		
	•		
essor affecting assessment area (Y/N)	NO		
	YES		
	NO NO		
	NO		
e a high-quality riverine wetland (Y/N)			
Summary			
Sub-function	Metrics	Detin	
Surface Storage and Retention		Rating	
		HIGH	
		MEDIUM	
•		HIGH	
	-	HIGH	
Particulate Change			
		HIGH	
		HIGH	
Soluble Change			
		MEDIUM	
		HIGH	
Physical Change			
yo.ou. onango		HIGH	
	-	HIGH	
Pollution Change		//N) YES	
i shallon change		X	
		X	
Physical Structure		/N) X	
		HIGH	
		LOW	
		HIGH	
Oniqueness	Condition	NO	
nary			
	Metrics	Rating	
	Condition	HIGH	
	Condition	HIGH	
		HIGH	
	Condition	HIGH	
	ressor affecting assessment area (Y/N) Assessment Form (Y/N) gulatory considerations (Y/N) nsively managed (Y/N) e a high-quality riverine wetland (Y/N) Summary Sub-function Surface Storage and Retention	ressor affecting assessment area (Y/N) YES gulatory considerations (Y/N) NO nsively managed (Y/N) NO e a high-quality riverine wetland (Y/N) Psummary Sub-function Metrics Surface Storage and Retention Condition Sub-surface Storage and Retention Condition Pathogen Change Condition Particulate Change Condition Particulate Change Condition Soluble Change Condition Physical Change Condition Physical Change Condition Poportunity Presence (Y Poportunity Presence (Y Poportunity Presence (Y Physical Structure Condition Landscape Patch Structure Condition Vegetation Composition Condition Uniqueness Condition Metrics Condition	

٦	Wetland Site Name	Z4-II-WAM08	Date	9-6-07					
	Wetland Type	Headwater Wetland	Assessor Name/Organization	EcoScience JW/MC					
	Level III Ecoregion	Southeastern Plains	Nearest Named Water Body	Bones Creek					
J	River Basin	Cape Fear	USGS 8-Digit Catalogue Unit	03030004 34 044415 -79.031989					
7	☐ Yes 🛛 No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	34 044413 -79.031989					
	Please circle and/or ma (for instance, within 10 • Hydrological • Surface and septic tanks, • Signs of vege • Habitat/plant	ake note below if evidence of stre years) Noteworthy stressors incl modifications (examples. ditches, sub-surface discharges into the underground storage tanks (USTs tation stress (examples: vegetation community alteration (examples	on mortality, insect damage, disease, storm mowing, clear-cutting, exotics, etc)	etc.) obvious pollutants, presence of nearby					
1	is the assessment are	ea intensively managed?	res 🛮 No						
	Describe effects of st	ressors that are present							
1	Regulatory Considera	ations							
-	Select all that apply to	the assessment area							
	Anadromous	fish	nd or throatonad enecias						
-	Federally pro	tected species or State endanger rian buffer rule in effect	ed or unreatened species						
-	☐ NCDWQ fipa	rian buffer rule in effect cent to or associated stream drair	ns to a Primary Nursery Area						
١	☐ Publicly owne	ed property							
	☐ N.C Division	of Coastal Management Area of I	Environmental Concern (AEC) (including bu	ffer)					
	☐ N C Division	of Water Quality best usage class	sification of SA or supplemental classificatio	ns of HQVV, ORVV, or Frout					
-	_	ICNHP reference community							
1	What type of natural	stream is associated with the w	etland, if any? (Check all that apply)						
ı									
$\lfloor \rfloor$	Brownwater	aleaste and all a fall account harrest) ☐ Lunar ☐ Wind ☐ Both						
١	_ ,	check one of the following boxes							
		s the assessment area on a coastal island? Yes No							
١	is the assessment an	s the assessment area's surface water storage capacity or duration substantially altered by beaver? 🔲 Yes 🔯 No							
	Check a box in ea the assessment area b assessment area b GS VS ⊠A ⊠A □B □B	ach column. Consider alteration ea Compare to reference wetlar ased on evidence of alteration Not severely altered Severely altered over most of the sedimentation, fire-plow lanes, s alteration examples: mechanica less diversity [if appropriate], artifi		n examples vehicle tracks, excessive not obvious pollutants) (vegetation structure nere appropriate), exotic species, grazing,					
	2. Surface and Sub-	Surface Storage Capacity and D	uration – assessment area condition me	tric					
	Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub) Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1 0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.								
	Surf Sub ⊠A ⊠A □B □B □C □C	Water storage capacity or duration change) (examples: intensive dit dams, stream incision, sewer line	n are altered, but not substantially (typically n are substantially altered (typically, alterati ching, fill, sedimentation, channelization, div s, soil compaction)	on sufficient to result in vegetation					
	3. Water Storage/Su	ırface Relief – assessment area	wetland type condition metric	nd the wetland type (WT)					
	Check a box in e	ach column Select the appropri	ate storage for the assessment area (AA) are	id tile adming Aba ()					
_	AA WT A A B B B C C C C MD MD DE DE	> 50% of the wetland type with d > 50% of the wetland type with	epressions able to pond water > 2 feet lepressions able to pond water 1 to 2 feet essions able to pond water 6 inches to 1 foo essions able to pond water 3- to 6-inches do	ot					

	Select all National	II that a _i Technica	pply. De	g soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot ttee for Hydric Soils regional indicators are noted (use most recent guidance).
	⊠A	Sandy s	ioil	
	□B ⊠C	Predom Predom	inantly ch inantly ch	naracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) haracterized by other, mineral soil (no mottling)
	□D	Gleyed	mineral s	oil (F2, S4)
	⊠E □F		on < 1 in on ≥ 1 in	
				presence
	□H	A peat of	r muck p	resence (A6, A7, A8, A9, A10, F1, S1)
				(histosol or histic epipedon) (A1, A2, A3)
5.	_	*		opportunity metric
	Examples	boxin sofsub- Sub	each co surface d	olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) ischarges include presence of nearby septic tank, underground storage tank (UST), etc
	⊠A	⊠A	Little or	no evidence of pollutants or discharges entering the assessment area
	□в	□в	Noticea	ble evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
	□с	□с	Noticea	nt capacity of the assessment area ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and
			potentia sedimer	ily overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
6.	Land Use		•	
	and within Plain and	ire upstr the wat Piedmoi	eam wate ershed d nt and 30	luation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles raining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal feet wide in the Mountains.
		5M □A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples.
				industrial, commercial, and high-density residential)
	□B	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs
	⊠D	⊠Ď	⊠ _C	10 to 30% impervious surfaces < 10% impervious surfaces
	∏E I	ПΕ		Old urban development (pink areas on USGS 7 5-minute quadrangles)
		□F □G	□F □G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)
	⊟H į	□H	⊟ř	≥ 20% coverage of pasture without riparian buffer
	i			≥ 20% coverage of pasture with effective riparian buffer
		∏J ∐K	□k □ì	≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
		□L		≥ 20% coverage of maintained grass/herb
		□M ⊠N	□M ⊠N	Silvicultural land with disturbance < 5 years old
				Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area
7.				ted Buffer – assessment area condition metric
	L.	Zires		In 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric Is normal flow width [ordinary high water to ordinary high water]). If the stream is an
	WILLIAS OF C	<u>:nanneis</u>	orales to	r a total stream width
	Do roots o	⊠≤ 15-fe f assess ⊠Yes	ment are	☐> 15-feet wide ☐Not Applicable a vegetation extend into the bank of the adjacent stream/open water?
	is stream of	or other o	open wate	er sheltered or exposed?
	L	_ Expose	ed – adja	acent open water with width < 2500 feet <u>and</u> no regular boat traffic cent open water with width ≥ 2500 feet <u>or</u> regular boat traffic
8.				fidth assessment area/wetland type/wetland complex metric
	only be pr	tne npa esent or sed syste	rian butte n one sid em. Mak	mn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex or at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need to of the water body. The riparian buffer is measured from the outside banks of the outer channels of an element buffer buffer landscape feature. Record a note if a portion of the buffer has been
			RB (if ap	
			⊠ _A	≥ 100 feet
			□B □C	From 80 to < 100 feet From 50 to < 80 feet
			旨	From 40 to < 50 feet
		ΞE	□E	From 30 to < 40 feet
		⊒F ⊒G	□F □G	From 15 to < 30 feet From 5 to < 15 feet
			H	< 5 feet

4. Soil Texture/Structure – assessment area condition metric

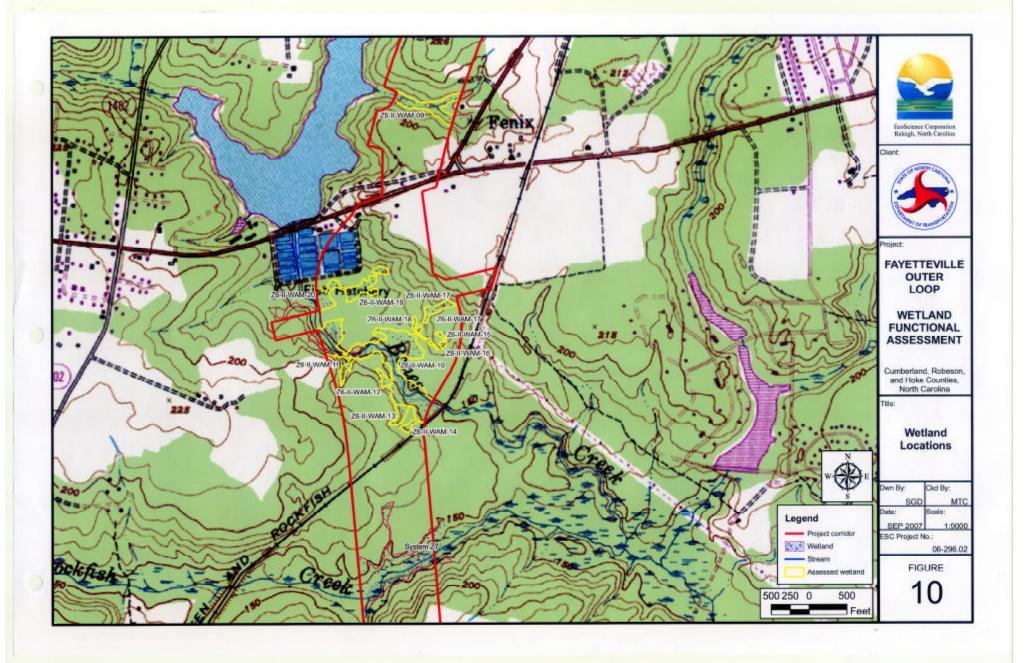
9.	Inundation Duration — assessment area condition metric
	Answer for assessment area dominant landform A Evidence of short-duration inundation (< 7 consecutive days) B Evidence of saturation, without evidence of inundation C Evidence of long-duration inundation (7 to 30 consecutive days or more)
10.	Indicators of Deposition – assessment area condition metric
•	Consider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland
11.	Wetland Size – wetland type/wetland complex condition metric
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual) Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column. WT WC FW (if applicable) A A A S 500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F F From 10 to < 25 acres F F F From 5 to < 10 acres G G G From 1 to < 5 acres H D H B From 0 5 to < 1 acre I D D From 0 1 to < 0 5 acre J D D From 0 1 to < 0 5 acre
12.	. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
	□A Wetland type is the full extent (≥ 90%) of its natural landscape size □B Wetland type is < 90% of the full extent of its natural landscape size
13.	. Connectivity to Other Natural Areas – landscape condition metric
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A S 500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 10 to < 50 acres F S < 10 acres F S Wetland type has a poor or no connection to other natural habitats
	Check Yes or No.
	 Check Yes or No. ☐ Yes ☐ No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☑ Yes ☐ No Is the assessment area subject to overbank flooding during normal conditions?
14	l. Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass A No artificial edge within 150 feet in all directions B No artificial edge within 150 feet in four to seven directions C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15	5. Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic vegetation severely altered from reference in composition in species or inappropriately composed of a single species.
4	species of composed of planted stated of the
^ 1	6. Vegetative Diversity – assessment and is composed primarily of native species A

報を記されている。

17.	Vegetative Structure – assessment area/wetland type condition metric
	✓ Vegetation present
	Evaluate percent coverage of vegetation for marshes only ☐A ≥ 25% coverage of vegetation
	☐B < 25% coverage of vegetation
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
	□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
	□ A Dense mid-story/sapling layer □ B Moderate density mid-story/sapling layer □ C Mid-story/sapling layer sparse or absent
	⊠A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent
	□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent
18.	Snags – wetland type condition metric
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability) Not A
19.	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
	present ☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH ☐C Most canopy trees are < 6-inches DBH or no trees
20.	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability) Not A
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season Patterned areas indicate vegetated areas, while solid white areas indicate open water
22.	Habitat Uniqueness – wetland type condition metric
□Y	
Note	es es
Fran	nes 9900 and 9901

Wetland Site Name	Z4-II-WAM08	Date of Assessment	9-6-07 EcoScience JW/MC	
Wetland Type	Headwater Wetland As	sessor Name/Organization		
_	(3//31)	NO		
	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N) gulatory considerations (Y/N)	NO		
	nsively managed (Y/N)	NO		
	e a high-quality riverine wetland(Y/N)			
wedand may b	e a nigri-quality riversite wettailu (1714)			
Sub-function Rating				
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition		HIGH
<u> </u>	Sub-surface Storage and Retention			HIGH
Water Quality	Pathogen Change	Condition		MEDIUM
		Condition/Opportunity		MEDIUM
		Opportunity Presence	(Y/N)	NO
	Particulate Change	Condition		HIGH
		Condition/Opportunity		<u> </u>
		Opportunity Presence	(Y/N)	X
	Soluble Change	Condition		MEDIUM
		Condition/Opportunity		MEDIUM
		Opportunity Presence	(Y/N)	NO
	Physical Change	Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Pollution Change	Condition		Х
		Condition/Opportunity		Х
		Opportunity Presence	(Y/N)	Х
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		LOW
	Vegetation Composition	Condition		HIGH
	Uniqueness	Condition	-	NO
Function Rating Su	mmary			
Function		Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
-		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
		Condition		HIGH
Habitat				





Γ	Wetland Site Name		Date	9-7-07
1	Wetland Type		Assessor Name/Organization	EcoScience Allen and Cusack
	Level III Ecoregior River Basir		Nearest Named Water Body USGS 8-Digit Catalogue Unit	Bones Creek 03030004
•	Yes ⊠ No		Latitude/Longitude (deci-degrees)	35 035441 -79 035612
-				
	Please circle and/or m (for instance, within 10	nake note below if evidence of stress o years). Noteworthy stressors inclu- modifications (examples: ditches, sub-surface discharges into the v underground storage tanks (USTs) etation stress (examples vegetation	on mortality, insect damage, disease, storm mowing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc) obvious pollutants, presence of nearby
H	Regulatory Consider Select all that apply to Anadromous Federally pro	the assessment area	d or threatened species	
	☐ Wetland adja☐ Publicly own☐ N C Division	acent to or associated stream drains ed property n of Coastal Management Area of E	s to a Primary Nursery Area nvironmental Concern (AEC) (including buff fication of SA or supplemental classification	
1		NCNHP reference community	tland, if any? (Check all that apply)	
	☑ Blackwater☑ Brownwater	check one of the following boxes)		
1		ea on a coastal island? Yes ea's surface water storage capac	s	eaver? 🗌 Yes 🖾 No
1.	Check a box in earthe assessment area basessment area bases ba	ach column. Consider alteration to ea Compare to reference wetland ased on evidence of alteration Not severely altered Severely altered over most of the a sedimentation, fire-plow lanes, ski	assessment area condition metric to the ground surface (GS) in the assessment if applicable (see User Manual v1 0). If a ssessment area (ground surface alteration of dder tracks, bedding, fill, soil compaction, disturbance, herbicides, salt intrusion [whe all hydrologic alteration)	reference is not applicable, then rate the examples vehicle tracks, excessive obvious pollutants) (vegetation structure
2.	Surface and Sub-	Surface Storage Capacity and Du	ration – assessment area condition metr	ic
	(Sub) Consider bo G) for North Caroli	oth increase and decrease in hydro na hydric soils for the zone of influe	torage capacity and duration (Surf) and surlogy. Refer to the NRCS Scope and Effectence of ditches in hydric soils. A ditch ≤ 1 to affect both surface and sub-surface w	t Guide (see User Manual v1 0 Appendix foot deep is considered to affect surface
	MA MA B BB C C	Water storage capacity or duration change) (examples. intensive ditch dams, stream incision, sewer lines,	are altered, but not substantially (typically, i are substantially altered (typically, alteration ling, fill, sedimentation, channelization, dive soil compaction)	sufficient to result in vegetation
3.	Water Storage/Su	rface Relief – assessment area/w	etland type condition metric	the welland hine AMT\
	Check a box in ea	ch column Select the appropriate	e storage for the assessment area (AA) and	the wetland type (W1)
	AA WT A DA B DB C DC MD MD DE DE	> 50% of the wetland type with dep > 50% of the wetland type with dep	pressions able to pond water > 2 feet pressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches dee	

	Select Nation	: all that a l al Technica	pply. D	Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot nittee for Hydric Soils regional indicators are noted (use most recent guidance).
	L∐A	Sandy s	soil	- ,
	□в ⊠С	Predom Predom	unantly o	characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) characterized by other, mineral soil (no mottling)
	□D	Gleyed:	mineral :	soil (F2, S4)
	⊠E □F		on < 1 i	
	⊠G		on ≥ 1 in tor muck	ncn ¢ presence
	⊟н	A peat o	or muck (presence (A6, A7, A8, A9, A10, F1, S1)
	□ 1			il (histosol or histic epipedon) (A1, A2, A3)
5.				- opportunity metric
	Surf	a box in les of sub-: Sub	surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) discharges include presence of nearby septic tank, underground storage tank (UST), etc
	⊠A □B	⊠a □B	Noticea	r no evidence of pollutants or discharges entering the assessment area able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
	□с	С	Noticea potentia	ent capacity of the assessment area able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive entation)
6.	Land U	se – oppo		·
	Check	all that ap	ply. Eva	aluation of this metric involves a GIS effort with field adjustment. Consider sources desirant to account
	and with	hin the wat	tershed of	tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal 0 feet wide in the Mountains
	ws	5M	2M	
	□A	□A	ΠA	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential)
	□в	□в	□в	> 30% impervious surfaces without stormwater BMPs
	□c □d			10 to 30% impervious surfaces
	□E	ĘĔ	ᄩ	< 10% impervious surfaces Old urban development (pink areas on USGS 7 5-minute quadrangles)
	□F	□F	□F	New adjacent development
	□G □H	□G □H	□G □H	Confined animal operations (or other local, concentrated source of pollutants)
		<u> </u>	占.	≥ 20% coverage of pasture without ripanan buffer ≥ 20% coverage of pasture with effective ripanan buffer
	Π'n		Πî	≥ 20% coverage of agricultural land (regularly plowed land) without ripagan buffer
	□k		□k □L	≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥ 20% coverage of maintained grass/herb
	ШМ		Ы́М	Silvicultural land with disturbance < 5 years old
	⊠N	⊠N	ΜN	Little or no opportunity Lack of opportunity may result from hydrologic modifications that provent drainege as
7	Watlana	l Antina	- Va 4-	overbank now from anecong the assessment area.
٠.				ated Buffer – assessment area condition metric
		NA (42	INI	hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric
	Stream v	width (Stre	eam widt	th is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine or a total stream width
	***************************************	⊠≤ 15-fe	et wide	☐> 15-feet wide ☐Not Applicable
	Do roots	of assess⊩ ⊠Yes	ment are	ea vegetation extend into the bank of the adjacent stream/open water?
	ls strean	or other o	pen wat	ter sheltered or exposed?
		⊠Shelter □Expose	red – adj ed – adja	acent open water with width < 2500 feet <u>and</u> no regular boat traffic icent open water with width ≥ 2500 feet <u>or</u> regular boat traffic
8.	Wetland	/Riparlan l	Buffer V	Vidth – assessment area/wetland type/wetland complex metric
	only be anastom	present on osed syste	n one sid em. Mal	umn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex er at the assessment area (RB) (if applicable) Ripanan buffer width is measured from top of bank and need de of the water body. The ripanan buffer is measured from the outside banks of the outer channels of an ke buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	ICHIOVEU	or disturbe	eu.	
	WT □A		KB(liap ⊠A	oplicable) ≥ 100 feet
			B B	From 80 to < 100 feet
	⊠B □C	□c	□с	From 50 to < 80 feet
	□D		먇	From 40 to < 50 feet
	□E □F		□E □F	From 30 to < 40 feet From 15 to < 30 feet
	Ḧ́G		∐g	From 5 to < 15 feet
	Η̈́	Π̈́́́	⊟H	< 5 feet

4. Soil Texture/Structure – assessment area condition metric

>	9.	inundation E	ation – assessment area condition metric		
			ssment area dominant landform.		
			ce of short-duration inundation (< 7 consecutive days) ce of saturation, without evidence of inundation		
		☑B Evi □C Evi	ce of long-duration inundation (7 to 30 consecutive days or more)		
		-	eposition – assessment area condition metric		
		Consider rec	deposition only (no plant growth since deposition)		
		⊠A Sec	ent deposition is not excessive, but at approximately natural levels		
		☐B Set	ent deposition is excessive, but not overwhelming the wetland ent deposition is excessive and is overwhelming the wetland		
		_	wetland type/wetland complex condition metric		
	11.	Check a bar	each column. Involves a GIS effort with field adjustment. This metric evaluates thre	e aspects of the wetland area the	
		size of the wapplicable, sa boundary is	und type (WT), the size of the contiguous wetland complex (WC), and the size of the countries are formed by uplands, four-lane roads, or urban landscape extends across the entire width of the floodplain. Additionally, other wetland types are entiarea is clear-cut, select "K" for FW column.	s. An observed beaver pond forms	
		WT W	FW (if applicable)		
			☐B From 100 to < 500 acres ☐C From 50 to < 100 acres		
			D From 25 to < 50 acres		
			E From 10 to < 25 acres		
			☐F From 5 to < 10 acres ☐G From 1 to < 5 acres		
		H H	☐H From 0.5 to < 1 acre		
			☐I From 0 1 to < 0 5 acre ☐J From 0 01 to < 0 1 acre		
			☐J From 0 01 to < 0 1 acre ☐K < 0 01 acre		
	12	_	ness – wetland type condition metric (evaluate for Pocosins only)		
	12.		nd type is the full extent (≥ 90%) of its natural landscape size.		
		□B We	nd type is < 90% of the full extent of its natural landscape size		
	13.	Connectivit	Other Natural Areas – landscape condition metric		
		appropriate) agriculture), landscape p WC LC		pes, maintained lieids (pasture and	
			≥ 500 acres From 100 to < 500 acres		
			From 50 to < 100 acres		
			From 10 to < 50 acres		
			< 10 acres Wetland type has a poor or no connection to other natural habitats		
		Check Yes	No.		
		□Yes □ ⊠Yes □	Does wetland type have a surface hydrology connection to open waters or tidal wetless the assessment area subject to overbank flooding during normal conditions?	ands? (evaluate for marshes only)	
	14.	Edge Effect	wetland type condition metric	stures such as fields, development	
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, distribution two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider main points of the compass □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut				
	15.	Vegetative	mposition – assessment area condition metric (skip for marshes and Pine Flat)		
		∏Ā Ve	ation is close to reference condition in species present and their proportions. Lower stra	ata composed of appropriate	
		sp	es, with exotic plants absent or sparse within the assessment area.		
		ch cl	ctenstic of the wetland type. This may include communities of weedy native species ng. It also includes communities with exotics present, but not dominant, over a large po	is that develop after clearcutting or rtion of the expected strata ally absent or dominated by exotic	
			on or composed of planted stands of non-characteristic species of mapping the composed of planted stands of non-characteristic species of mapping the composed of planted stands of non-characteristic species of mapping the composed of planted stands of non-characteristic species of mapping the composed of planted stands of non-characteristic species of mapping the composed of planted stands of non-characteristic species of mapping the composed of planted stands of non-characteristic species of mapping the composed of planted stands of non-characteristic species of mapping the composed of the composed	**************************************	
	16.	. Vegetative	versity – assessment area condition metric (evaluate for Non-tidal Freshwater Mar		
		—	Antion divorate is high and is composed primarily of flative species		
•		== \	nation diversity is low or has > 10% cover of exotics etation is dominated by exotic species.		

"	• Vegetative Structure – assessment area/wetland type condition metric
	☑ Vegetation present Evaluate percent coverage of vegetation for marshes only
	□A ≥ 25% coverage of vegetation
	☐B < 25% coverage of vegetation
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	AA WT
	□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
	□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer ☑C ☑C Mid-story/sapling layer sparse or absent
	 ☑A
	□A □A Dense herb layer
	☑B ☑B Moderate density herb layer □C □C Herb layer sparse or absent
	☐C ☐C Herb layer sparse or absent ☐ Vegetation absent
12	Snags – wetland type condition metric
10.	
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability) Not A
19,	Diameter Class Distribution – wetland type condition metric
	present.
	Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH Most canopy trees are < 6-inches DBH or no trees.
20.	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles
	□A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).
21	
-1.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season Patterned areas indicate vegetated areas, while solid white areas indicate open water
22.	Habitat Uniqueness – wetland type condition metric
□Ye	es 🔲 No Has the N.C Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
	(OWL)?
Note:	S .

-4-4h-a C4----

Wetland Site Name	Z5-II-WAM09	Date of Assessment	9-7-07	
Wetland Type	Headwater Wetland As	sessor Name/Organization	EcoScien Cusack	ce Allen and
Presence of st	ressor affecting assessment area (Y/N)	NO		
	Assessment Form (Y/N)	NO		
	gulatory considerations (Y/N)	NO		
Wetland is inte	nsively managed (Y/N)	NO		
Wetland may b	e a high-quality riverine wetland (Y/N)			
Sub-function Ratin	g Summary			
unction	Sub-function	Metrics		Rating
lydrology	Surface Storage and Retention	Condition		HIGH
	Sub-surface Storage and Retenti	on Condition		HIGH
Water Quality	Pathogen Change	Condition		MEDIUM
		Condition/Opportunity		MEDIUM
		Opportunity Presence	(Y/N)	NO
	Particulate Change	Condition		HIGH
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
	Soluble Change	Condition		MEDIUM
		Condition/Opportunity		MEDIUM
		Opportunity Presence	(Y/N)	МО
	Physical Change	Condition		HIGH
	•	Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Pollution Change	Condition		X
	•	Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		HIGH
	Vegetation Composition	Condition		MEDIUM
	Uniqueness	Condition		NO
Function Rating S	ummarv			
Function		Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
•		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	YES
		Condition		HIGH
Habitat				

_			D-4-	9-7-07		
	Wetland Site Name	Z6-II-WAM19	Date	EcoScience Cusack/Allen		
	Wetland Type		Assessor Name/Organization Nearest Named Water Body	Bones Creek		
-	Level III Ecoregion			03030004		
•	River Basin	Cape Fear	USGS 8-Digit Catalogue Unit	35 028825 -79.038614		
Ĺ	☐ Yes 🗵 No	Precipitation within 48 hrs?	Latitude/Longitude (decl-degrees)	35 026625 -79.036014		
	Please circle and/or ma (for instance, within 10	ake note below if evidence of stress years). Noteworthy stressors inclumodifications (examples: ditches, casub-surface discharges into the worderground storage tanks (USTs), tation stress (examples: vegetation community alteration (examples. In a intensively managed?	lams, beaver dams, dikes, berms, ponds, e etland (examples: discharges containing hog lagoons, etc.) n mortality, insect damage, disease, storm nowing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby		
ı	Describe effects of st	Considerations at apply to the assessment area madromous fish aderally protected species or State endangered or threatened species CDWQ nparian buffer rule in effect retland adjacent to or associated stream drains to a Primary Nursery Area ublicly owned property C Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Trout resignated NCNI-IP reference community of natural stream is associated with the wetland, if any? (Check all that apply) lackwater rownwater did (if tidal, check one of the following boxes)				
	Anadromous Federally prof NCDWQ npar Wetland adjar Publicly owner N.C Division N.C Division Designated N What type of natural s Blackwater Brownwater	the assessment area fish tected species or State endangered finan buffer rule in effect cent to or associated stream drains of property of Coastal Management Area of Ei of Water Quality best usage classi CNHP reference community stream is associated with the wel	to a Primary Nursery Area nvironmental Concern (AEC) (including buf fication of SA or supplemental classification tland, if any? (Check all that apply)	ifer) ns of HQW, ORW, or Trout		
	Tidal (if tidal,	check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both			
- 7			_			
	is the assessment are	ea on a coastal island? 🔲 Yes	i ⊠ No			
	is the assessment are	a's surface water storage capac	ity or duration substantially altered by b	peaver? 🗌 Yes 🔯 No		
	Check a box in earthe assessment area books Solon SA	ich column. Consider alteration to ea. Compare to reference wetland ased on evidence of alteration. Not severely altered over most of the a	assessment area condition metric to the ground surface (GS) in the assessm if applicable (see User Manual v1.0) If a ssessment area (ground surface alteration dder tracks, bedding, fill, soil compaction,	examples vehicle tracks, excessive		
	;	alteration examples: mechanical less diversity [if appropriate], artific	disturbance, herbicides, salt intrusion (wh	ere appropriate], exotic species, grazing,		
	2. Surface and Sub-S	Surface Storage Capacity and Du	ration – assessment area condition met	tric		
	Check a box in ea (Sub) Consider bo	ach column. Consider surface so th increase and decrease in hydrona bydric soils for the zone of influ	torage capacity and duration (Surf) and s slogy. Refer to the NRCS Scope and Effer ence of ditches in hydric soils. A ditch so to affect both surface and sub-surface	sub-surface storage capacity and duration ot Guide (see User Manual v1.0 Appendix 1 foot deep is considered to affect surface		
	⊠A ⊠A	Water storage capacity and duration	n are not altered			
	□B □B □C □C	Water storage capacity or duration Water storage capacity or duration change) (examples intensive ditcl dams, stream incision, sewer lines	are altered, but not substantially (typically, are substantially altered (typically, alteration ning, fill, sedimentation, channelization, divention, soil compaction)	on sufficient to result in vegetation		
	3. Water Storage/Su	rface Relief – assessment area/v	retland type condition metric			
	Charles have in as	ch column. Select the appropriate	storage for the assessment area (AA) and	d the wetland type (WT).		
_	11/4					
	` ^^^	> 50% of the wetland type with dep	pressions able to pond water > 2 feet			
		- rook -446- walland brook with del	nressions anie to porto water i to 2 lest	•		
	□B □B □C □C		sinns anie to dono water o ilicitos to ilicoto	en		
		SO% of wetland type with depres	ssions able to pond water 3- to 0-inches do	ор		
		Depressions able to pond water <	3-inches deep			

4	4. Soil	Texture/	Structure	- assessment area condition metric
	Sele Natio □A	ct all tha onal Tech San	at apply. Inical Com dv soil	Dig soil profile in the dominant assessment area landscape feature Make soil observations within the top foot imittee for Hydric Soils regional indicators are noted (use most recent guidance).
		Gley	lominantly lominantly ∕ed minera ribbon < 1	characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) characterized by other, mineral soil (no mottling) if soil (F2, S4)
	□F	Soil	ribbon ≥ 1	Inch
	⊠G □H □	A pe	at or mucl	ck presence c presence (A6, A7, A8, A9, A10, F1, S1) soil (histosol or histic epipedon) (A1, A2, A3)
5	. Disci	narge int	o Wetland	1 – opportunity metric
	Chec Exam Surf	k a box ples of su Sub	in each ub-surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) discharges include presence of nearby septic tank, underground storage tank (UST), etc.
	⊠a ∐B	⊠A ⊟B	Little Notice	or no evidence of pollutants or discharges entering the assessment area
	□c	□c	Notice	nent capacity of the assessment area pable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and entation) tially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
6.	Land (Use – on	portunity	
	Check	all that	apply F	/aluation of this materia would be a second
	Plain a	ının the v ınd Piedn	vatershed nont and 3	valuation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area itershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal
	WS □A	5M ∐A	2M □A	
	□B			> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:
	□c	□B □C	⊟B ⊟C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces
	⊠D □E	⊠D □E	⊠D	< 10% impervious surfaces
	□F	□F		Old urban development (pink areas on USGS 7 5-minute quadrangles) New adjacent development
	□G □H	□G	□G	Confined animal operations (or other local, concentrated animal operations (or other local, concentrated
	□k □j	□.	□J	≥ 20% coverage of pasture with effective riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer
	片.	□k □L	□k □L	
	Μ̈́Μ	\boxtimes M	⊠M	Silvicultural land with disturbance of 5 years add
7 .	□N Wetland	□N 1 Acting	□N	overbank flow from affecting the assessment area
••	Is the as	sessmer	as vegeta it area witi	ated Buffer – assessment area condition metric
	Stroom	☐Yes	⊠No	hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
		1 15 75-1	ehiw 1991	h is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine 1 No. Skip to next metric
	Do roots	of asses ∐Yes	sment are ☐No	a vegetation extend into the bank of the adjacent stream/open water?
	is steam		ered – adi:	er sheltered or exposed? acent open water with width < 2500 feet <u>and</u> no regular boat traffic.
	Matland	_ •		our open water with width < 2000 feet of regular hoat traffic
, .	Check a	hov in) Buffer W	/idth – assessment area/wetland type/wetland complex metric
	(WC), an	d the ripa	arian buffe an one sid	imn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex of at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need of the water body. The riparian buffer is measured from the outside banks of the outer channels of an elbuffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	emoved	or disturt WC	oed.	record a note if a portion of the buffer has been
		⊠A	RB (if ap	Dicable) ≥ 100 feet
	□в	□в	□в	From 80 to < 100 feet
			□c □D	From 50 to < 80 feet From 40 to < 50 feet
	□E	□E	□E	From 30 to < 40 feet
[□F □G	□F	From 15 to < 30 feet
		⊟H	□G □H	From 5 to < 15 feet < 5 feet

, ,	9.	inundation Duration – assessment area condition metric
		Answer for assessment area dominant landform A Evidence of short-duration inundation (< 7 consecutive days) E Evidence of saturation, without evidence of inundation
		Evidence of long-duration inundation (7 to 30 consecutive days or more)
		Indicators of Deposition – assessment area condition metric
		Consider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland
	11.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT WC FW (if applicable) A
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only) ☐ A Wetland type is the full extent (≥ 90%) of its natural landscape size ☐ B Wetland type is < 90% of the full extent of its natural landscape size
	13.	Connectivity to Other Natural Areas – landscape condition metric
	•	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥ 500 acres B B From 100 to < 500 acres. C C From 50 to < 100 acres. D D From 10 to < 50 acres. E E < 10 acres. F Wetland type has a poor or no connection to other natural habitats.
		Check Yes or No. ☐ Yes ☐ No ☐ Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐ Yes ☐ No ☐ Is the assessment area subject to overbank flooding during normal conditions?
	14.	Edge Effect – wetland type condition metric
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. ⊠A No artificial edge within 150 feet in all directions. □B No artificial edge within 150 feet in four to seven directions. □C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
		Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	16.	Vegetative Diversity – assessment and discomposed primarily of native species. A Vegetation diversity is high and is composed primarily of native species. B Vegetation diversity is low or has > 10% cover of exotics C Vegetation is dominated by exotic species

17.	Veget	ative S	tructure	- assessment area/wetland type	condition metric			
			on prese					
				t coverage of vegetation for mar	shes only			
		☐A ≥ 25% coverage of vegetation ☐B < 25% coverage of vegetation						
					Fyaluate this portion	of the metric for non-marsh wetlands.	On-side.	
	st	tructur A	in airsa WT	pace above the assessment area	(AA) and the wetland typ	pe (WT) separately.	Consider	
	[]A	□A □B ⊠C	Canopy closed, or nearly closed, Canopy present, but opened mor Canopy sparse or absent	with natural gaps associat e than natural gaps	ed with natural processes		
	□]A]B]C	□A □B ⊠C	Dense mid-story/sapling layer Moderate density mid-story/saplin Mid-story/sapling layer sparse or	ng layer absent			
			⊠A □B □C	Dense shrub layer Moderate density shrub layer Shrub layer sparse or absent				
] B]C	□A ⊠B □C	Dense herb layer Moderate density herb layer Herb layer sparse or absent				
		-	on abser					
18.				condition metric				
	□A ⊠B	Not A	4			ve to species present and landscape stability	y)	
19.				bution - wetland type condition				
	ΠA	Most	canopy	trees have stems > 6-inches in dia	meter at breast height (DB	H), many large trees (> 12-inches DBH) are		
	□B ⊠C	prese Most Most	canopy	trees have stems between 6- and trees are < 6-inches DBH or no tre	12-inches DBH, few are > 1	12-inch DBH		
20.	Large 1	Woody	Debris -	- wetland type condition metric				
		both m	an-made	e and natural debris piles.				
	∏A ⊠B	Large Not A	∍ logs (m \	ore than one) are present (> 12-in	ches in diameter, or large r	relative to species present and landscape sta	ability)	
21.	Select :	the figu	re that b	est describes the amount of inter-	spersion between vegetation	(evaluate for Non-Tidal Freshwater Marsion and open water in the growing season	h only) Patterned	
	areas ir	ndicate	vegetate □ ∧	o areas, while solid white areas ind	dicate open wa <u>te</u> r	, ————————————————————————————————————	· audinou	
	_	100m		∐B	∐C	LJD		
	W	dy			<i>(</i>)			
	¥							
22.	Habitat	Unique	eness –	wetland type condition metric				
□Y					Commission classified the a	ssessment area as "Unique Wetlands" (UW	I \'2"	
						Official area as Offique Wellands (OW	L)'	
Note	<u> </u>							
	os 9937	-9939						

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Mark Con.

Wetland Site Name	Z0-11-VVAM19	Date of Assessment	9-1-01	
Wetland Type	Seep A	ssessor Name/Organization	EcoScience Cusack/Al	
Dunnaman af ak	was a starting good mont area (VINI)	NO		
	ressor affecting assessment area (Y/N) Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	NO		
	nsively managed (Y/N)	NO		
	e a high-quality riverine wetland (Y/N)			
710aana may 2	(,			
Sub-function Rating				D-4:
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition	_	X
	Sub-surface Storage and Retent			X
Water Quality	Pathogen Change	Condition	_	X
		Condition/Opportunity	_	X
		Opportunity Presence	(Y/N) _	Х
	Particulate Change	Condition		X
		Condition/Opportunity	_	X
		Opportunity Presence	(Y/N)	X
	Soluble Change	Condition	_	Х
		Condition/Opportunity	_	Х
		Opportunity Presence	(Y/N)	Х
	Physical Change	Condition		Х
		Condition/Opportunity	_	Х
		Opportunity Presence	(Y/N)	Х
	Pollution Change	Condition	_	Х
		Condition/Opportunity	_	Х
		Opportunity Presence	(Y/N)	X
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition	_	MEDIUN
	Vegetation Composition	Condition	_	HIGH
	Uniqueness	Condition		NO
Function Rating Su	mmary			
Function		Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition	_	HIGH
		Condition/Opportunity	_	Х
		Opportunity Presence	(Y/N)	X
Habitat		Condition		HIGH

	Wetland T Level III Ecoreg		Date Assessor Name/Organization	EasCalon - O. 1/All
- 1			The state of the s	EcoScience Cusack/Allen
	River Ba		Nearest Named Water Body	Bones Creek
		No Precipitation within 48 hrs?	USGS 8-Digit Catalogue Unit	
ŀ			Latitude/Longitude (deci-degrees)	35 028515, -79 040211
	(for instance, within Hydrologi Surface a septic tan	ir make note below if evidence of stre in 10 years). Noteworthy stressors incl cal modifications (examples: ditches, and sub-surface discharges into the v ks, underground storage tanks (USTs	(may not be within the assessment area) ssors is apparent. Consider departure from ude, but are not limited to the following dams, beaver dams, dikes, berms, ponds, e wetland (examples. discharges containing o), hog lagoons, etc.)	reference, if appropriate, in recent past etc) obvious pollutants, presence of nearby
	, , , , , , , , , , , , , , , , , , ,	ant community alteration (examples area intensively managed?	_	damage, salt intrusion, etc)
	Describe effects o	f stressors that are present		
	☐ Anadromo ☐ Federally ; ☐ NCDWQ n ☐ Wetland a ☐ Publicly ov ☐ N C. Divisi	to the assessment area rus fish protected species or State endangered parian buffer rule in effect djacent to or associated stream drains whed property on of Coastal Management Area of Fr	to a Primary Nursery Area	ar)
- 1 ~		d NCNHP reference community	ication of SA or supplemental classifications	of HQW, ORW, or Trout
	☐ Brownwate		land, if any? (Check all that apply) ☐ Lunar ☐ Wind ☐ Both	
] I:	s the assessment a	area on a coastal island? 🔲 Yes	 ⊠ No	İ
Į:			ty or duration substantially altered by bea	aver? 🗌 Yes 🖾 No
1.	the assessment a	based on evidence of alteration Not severely altered Severely altered over most of the as sedimentation, fire-plow lanes, skid-	the ground surface (GS) in the assessment applicable (see User Manual v1.0) If a respective sessment area (ground surface alteration expecting fill soil composition and the tracks, hedding fill soil composition and the tracks.	ramples vehicle tracks, excessive
•	Sunface and O. I.	less diversity [if appropriate], artificia	l hydrologic alteration)	appropriate], exotic species, grazing,
2.	Check a box in	-Surrace Storage Capacity and Dura	ation – assessment area condition metric	
	G) for North Carol	lina hydric soils for the zone of influer	rage capacity and duration (Surf) and sub- ingy Refer to the NRCS Scope and Effect C ince of ditches in hydric soils. A ditch ≤ 1 for o affect both surface and sub-surface wat	Juide (see User Manual v1.0 Appendix
	□A ØA □B □B ØC □C		e altered, but not substantially (typically, not e substantially altered (typically, alteration si g, fill, sedimentation, channelization, diversi	
3.	Water Storage/Su	ırface Relief – assessment area/wet	land type condition metric	
			torage for the assessment area (AA) and the	e wetland type (WT)
,	A DA DB DB DC DD DD DE	> 50% of wetland type with depression	essions able to pond water 1 to 2 feet ons able to pond water 6 inches to 1 foot ons able to pond water 3- to 6-inches deep	

4.	Soil Text	ture/Stru	cture – a:	ssessment area condition metric	
	National	Technical	Committ	soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot ee for Hydric Soils regional indicators are noted (use most recent guidance).	
□ Sandy soil □ Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) □ Predominantly characterized by other, mineral soil (no mottling) □ Gleyed mineral soil (F2, S4)					
	□D ⊠E	Soil ribbe	on < 1 inc	h	
	□F □G	No neat	on ≥ 1 inc or muck p	presence	
	⊠H ⊠H	A peat or r	r muck pr nuck soll	esence (A6, A7, A8, A9, A10, F1, S1) (histosol or histic epipedon) (A1, A2, A3)	
5.	Dischar	ge into W	/etland -	opportunity metric Opportunity metric Surface pollutants or discharges (Surface pollutants or discharges (Sub)	
	Check a Example Surf	a box in es of sub-: Sub	surface di	blumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) scharges include presence of nearby septic tank, underground storage tank (UST), etc	
	□A ⊠B	⊠A □B	Noticeal	no evidence of pollutants or discharges entering the assessment area ble evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the nt capacity of the assessment area	
	СС	□c	61-4	ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and illy overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive	
6.	Land Us	se – oppo	ortunity n	netric	
	within et	ntire upsti	ream wate tershed d	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles tershed (WS), within 5 miles and within 1 miles ershed (WS), within 5 miles and within 1 miles ershed (WS), within 5 miles and within 1 miles ershed (5M). Effective riparian buffers are considered to be 50 feet wide in the Coastal of the Mountains.	
	Plain an WS	id Piedmo 5M	2M	feet wide in the Mountains.	
	□A	□A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential)	
	□B	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces	
	⊠D	⊠D	⊠D	< 10% impervious surfaces Old urban development (pink areas on USGS 7 5-minute quadrangles)	
	□E □F	□E □F		New adjacent development	خ
	⊠Ġ	⊠G	⊠G	Confined animal operations (or other local, concentrated source of pollutants)	_
	⊠G □H □	맘		≥ 20% coverage of pasture without riparian buffer ≥ 20% coverage of pasture with effective riparian buffer	
		□J		≥ 20% coverage of agricultural land (regularly plowed land) without nparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer	
		□r □k	□L □L	≥ 20% coverage of maintained grass/herb	
	□M □N	□M	□M	Silvicultural land with disturbance < 5 years old Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area	
7.	Wetlan	d Acting	as Veget	ated Buffer – assessment area condition metric	
				thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric	
	Stream	width (S	tream wid	th is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine for a total stream width	
		□< 45	-foot wide		
		XIYes	□No		
	ls strea	Mehal	tered - a	ater sheltered or exposed? djacent open water with width < 2500 feet <u>and</u> no regular boat traffic ljacent open water with width ≥ 2500 feet <u>or</u> regular boat traffic	
8.	Wetlan	nd/Riparia	an Buffer	Width – assessment area/wetland type/wetland complex metric	
	(WC), and only be anasto	and the ri e present mosed sy	parian bu on one : /stem. M	blumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex of the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an lake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been	
		ed or dist WC	urbed. RR (if	applicable)	
	WT ⊠A	WC ⊠A	⊠A ⊠	≥ 100 feet	
	ГТВ	□В	□В	From 80 to < 100 feet From 50 to < 80 feet	
				From 40 to < 50 feet	
	E E	ΠE	□E	From 30 to < 40 feet From 15 to < 30 feet	
	□F □G	□F □G	□F □G	From 5 to < 15 feet	
	딺	FH	⊟н	< 5 feet	

9.	Inundation Duration – assessment area condition metric		
	⊠A ∐B	r assessment area dominant landform vidence of short-duration inundation (< 7 consecutive days) vidence of saturation, without evidence of inundation	
	□c	Evidence of long-duration inundation (7 to 30 consecutive days or more)	
10		of Deposition – assessment area condition metric	
	⊠A □B □C	ecent deposition only (no plant growth since deposition). Ediment deposition is not excessive, but at approximately natural levels. Ediment deposition is excessive, but not overwhelming the wetland. Ediment deposition is excessive and is overwhelming the wetland.	
11.	Wetlan	ize – wetland type/wetland complex condition metric	
	size of the application of the a	ox in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area. the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms of it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column essment area is clear-cut, select "K" for FW column. WC FW (if applicable) A ≥ 500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 25 to < 50 acres From 10 to < 25 acres From 5 to < 10 acres From 1 to < 5 acres From 0 to < 0 5 acre From 0 to < 0 1 acre From 0 1 to < 0 1 acre This metric evaluates three aspects of the wetland drea. The wetland types are considered boundaries for column essment area is clear-cut, select "K" for FW column with the field adjustment in the size of the contiguous, forested wetland (FW) (if specific acres are considered boundaries for column essment area is clear-cut, select "K" for FW column with the size of the contiguous, forested wetland (FW) (if specific acres are considered boundaries for column essment area is clear-cut, select "K" for FW column with the size of the contiguous, forested wetland (FW) (if specific acres are considered boundaries for column essment area is clear-cut, select "K" for FW column with the size of the contiguous, forested wetland (FW) (if specific acres are considered boundaries for column essment area is clear-cut, select "K" for FW column with the size of the contiguous, forested wetland (FW) (if specific acres are considered boundaries for column essment area is clear-cut, select "K" for FW column with the size of the contiguous, forested wetland (FW) (if specific acres are considered boundaries for column essment area is clear-cut, select "K" for FW column with the size of the contiguous area considered boundaries for column e	
12.	Wetland	tactness – wetland type condition metric (evaluate for Pocosins only)	
	□A □B	/etland type is the full extent (≥ 90%) of its natural landscape size. /etland type is < 90% of the full extent of its natural landscape size	
13.		ity to Other Natural Areas – landscape condition metric	
	appropri	propriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if it is includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the wetland type is well-connected (WC) or loosely-connected (LC) to the patch is included by the well-connected (WC) or loosely-connected (LC) to the patch is included by the well-connected (WC) or loosely-connected (LC) to the patch is included by the well-connected (WC) or loosely-connected (LC) to the patch is included by the well-connected (WC) or loosely-connected (LC) to the patch is included by the well-connected (WC) or loosely-connected (WC) or loosely-conne	
	Check Y		
		No Is the assessment area subject to overbank flooding during normal conditions?	
14.	•	t - wetland type condition metric	
	two-lane	stance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight of the compass. It is a compass of artificial edge within 150 feet in all directions of artificial edge within 150 feet in four to seven directions of artificial edge occurs within 150 feet in more than four directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven directions of a seven direction of a seven directi	
15.		Composition – assessment area condition metric (skip for marshes and Pine Flat)	
	□A ⊠B □C	regetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate ecies, with exotic plants absent or sparse within the assessment area. Regetation is different from reference condition in species diversity or proportions, but still largely composed of native species aracteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or earing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata agestation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.	
16.	Vegetat	Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)	
	□A	enetation diversity is high and is composed primarily of native species	
	□B □C	egetation diversity is low or has > 10% cover of exotics egetation is dominated by exotic species	

					nt area/wetland ty	pe condition	metric				
ľ	X	Vege	tation prese	ent t coverage 0'	f vegetation for m	arshes only					
			≥ 25% c	coverage of ve	egetation						
		☐B Chec		coverage of vereignment of column pace above to	egetation nn for each strati the assessment ar	ım. Evaluat ea (AA) and	te this portion the wetland t	on of the type (WT)	metric for n separately.	on-marsh wetlands	. Consider
		AA	WT		sed, or nearly close					ses	
			□A ⊠B □C	Canopy pre	sed, or neany close esent, but opened n arse or absent	nore than nati	ural gaps				
		□A 図B □C	□A ⊠B □C	Moderate d	-story/sapling layer density mid-story/sa apling layer sparse	pling layer or absent					
		⊠A □B □C	⊠A □B □C	Dense shru Moderate o Shrub laye	ub layer density shrub layer er sparse or absent						
		∐A ∐B ⊠C	⊠c	Herb layer	b layer density herb layer sparse or absent						
		Veg	etation abse								
18.	Sn	ags –	wetland typ	e condition	metric	40 mahaa Di	DU or large te	alative to s	necies presen	t and landscape stab	ulity)
		В	Not A				on, or large re	38040 10 3	pooloo pi coo	t and landscape stab	
19.			r Class Dist	tribution – w	etland type condit	ion metric	breast height ((DBH), ma	ny large trees	(> 12-inches DBH) a	аге
		A	4								
		С	Most canop Most canop	y trees are <	stems between 6- a 6-inches DBH or n	o trees	s DBH, few are	e > 12-inct	DBH		
20.	L.a	rge V			type condition me						
		A	Large logs	(more than or						resent and landscape	<i>F</i>
24				later Dispers	ion – wetland type	open water	condition me	etric (eval	uate for Non-	Tidal Freshwater M	arsh only)
21.	0.	-l+ 41	ha figure tha	t hest descri	bes the amount of while solid white area	interspersion	between veg	etation an	d open water	in the growing season	on Patterned
		4		NZ		•			2800W		
22	н	ahitat	Uniquenes	s – wetland t	type condition me	tric					
	Yes	_	No Has ti	he N C Envir	onmental Managen	nent Commis	sion classified	the asses	sment area a	s "Unique Wetlands"	(UWL)'Y"
No	tes										
)-9942								

Wetland Site Name	Z6-II-WAM20	Date of Assessment	t 9-7-07	
Wetland Type	Bottomland Hardwood Forest	Assessor Name/Organization	EcoScience Cusack/Allen	
	ressor affecting assessment area (Y/N)	NO NEC		
	Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	NO NO		
	nsively managed (Y/N) e a high-quality riverine wetland (Y/N)	NO		
	- , ,			
Sub-function Rating				
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention		HIGH	
	Sub-surface Storage and Reter	ntion Condition	MEDIUM	
Water Quality	Pathogen Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) NO	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) NO	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
Habitat	Physical Structure	Condition	LOW	
	Landscape Patch Structure	Condition	LOW	
	Vegetation Composition	Condition	MEDIUM	
	Uniqueness	Condition	NO	
Function Rating Sun	nmary			
Function		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
•		Condition/Opportunity	HIGH	
		Opportunity Presence		
Uchitat		Condition	LOW	
Habitat				

Overall Wetland Rating

HIGH

	Wetland S	ite Name	Z6-II-WAM10	Date	9-7-07
	Wet	and Type	Bottomland Hardwood Forest	Assessor Name/Organization	EcoScience Cusack/Allen
	Level III E	coregion		Nearest Named Water Body	Bones Creek
N	Ri	ver Basin		USGS 8-Digit Catalogue Unit	
_	☐ Yes	⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35 027068 -79 040021
((Please circle for instance • Hy • Su se • St • Ha	e and/or m , within 10 drological rface and ptic tanks, jns of vege bitat/plant	ake note below if evidence of stree years). Noteworthy stressors incli- modifications (examples ditches, sub-surface discharges into the v underground storage tanks (USTs etation stress (examples vegetation	on mortality, insect damage, disease, storm mowing, clear-cutting, exotics, etc.)	etc) obvious pollutants, presence of nearby
<u> '</u>	5 tile asset	Sirioiit ai	sa intensively managed :		
ָ ע	Describe ef JS 401 at u	fects of si pstream ei	ressors that are present nd of assessment area Runoff fro	m road ditched to assessment area	
<u></u>	☐ An	at apply to adromous	the assessment area	ed or threatened species	
ָן <u>ן</u>		DWQ npa	rian buffer rule in effect	a to a Delegan, November Area	
	- W.		cent to or associated stream drain ad property	s to a Primary Nursery Area	
	N: 	C. Divisior C Divisior	of Coastal Management Area of E	Environmental Concern (AEC) (including buf infication of SA or supplemental classification	fer) ns of HQW, ORW, or Trout
1	🛛 Bla	of natural ackwater ownwater	stream is associated with the wo	etland, if any? (Check all that apply)	
			check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both	
1	s the asse:	sment ar	ea on a coastal island? 🔲 Ye	s 🖾 No	
1				city or duration substantially altered by b	eaver? 🗌 Yes 🖾 No
1.	Check a	box in eassement ar semt area b VS ⊠A □B	ach column. Consider alteration ea. Compare to reference wetland ased on evidence of alteration. Not severely altered Severely altered over most of the sedimentation, fire-plow lanes, sk	assessment area condition metric to the ground surface (GS) in the assessment if applicable (see User Manual v1 0). If a assessment area (ground surface alteration and are tracks, bedding, fill, soil compaction, disturbance, herbitagies attentions.	examples: vehicle tracks, excessive obvious pollutants) (vegetation structure
					ul o
2.	Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub) Consider both increase and decrease in hydrology Refer to the NRCS Scope and Effect Guide (see User Manual v1 0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable Surf Sub				
	⊠A □B □C	⊠A □B □C	Water storage capacity or duration change) (examples: intensive dito dams, stream incision, sewer lines	n are altered, but not substantially (typically, n are substantially altered (typically, alteratio ching, fill, sedimentation, channelization, diventing, soil compaction)	n sufficient to result in vegetation
3	. Water S	itorage/Su	ırface Relief – assessment areal	wetland type condition metric	the wetland type (WT)
•	Check	a box in e	ach column Select the appropria	te storage for the assessment area (AA) and	I nie wenand rype (** ')
	AA	WT A B C MD E	> 50% of the wetland type with do	epressions able to pond water > 2 feet epressions able to pond water 1 to 2 feet essions able to pond water 6 inches to 1 foot essions able to pond water 3- to 6-inches de	:

٠.	SOIL LAY	tui oi oti u	ctui e – u	agodonion, di on opinimon in onio			
	National	Technica	Commit	soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot tee for Hydric Soils regional indicators are noted (use most recent guidance)			
	□A □B	Sandy so Predomi	nantly ch	aractenzed by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)			
	⊠c □D			aracterized by other, mineral soil (no mottling)			
	⊠E	Soil ribbe	on < 1 inc	sh` ´			
	□F □G	No peat	on ≥ 1 inc or muck j	presence			
	A peat or muck presence (A6, A7, A8, A9, A10, F1, S1) Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)						
5.	Dischar	ge into W	etland -	opportunity metric			
	Check a Example Surf	aboxin sofsub-s Sub	each co surface di	blumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). ischarges include presence of nearby septic tank, underground storage tank (UST), etc.			
	ΠA	□A	Little or	no evidence of pollutants or discharges entering the assessment area			
	⊠B	□в	treatme	ble evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the nt capacity of the assessment area			
	□c	⊠c	Noticeal potentia sedimer	ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and illy overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive tation)			
6.	Land Us	se – oppo		,			
	Check a within ei	all that ap ntire upstr iin the wat	piy. Eva eam wate tershed d	iluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles raining to the assessment area (2M) Effective riparian buffers are considered to be 50 feet wide in the Coastal feet wide in the Mountains			
	WS □A	5M ∐A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples			
	_			industrial, commercial, and high-density residential)			
	□B □C	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces			
	⊠D	⊠D	⊠D	< 10% impervious surfaces Old urban development (pink areas on USGS 7 5-minute quadrangles)			
	□E □F	□E □F	□E □F	New adjacent development	_		
	□G □H	□G □H	□G □H	Confined animal operations (or other local, concentrated source of pollutants) ≥ 20% coverage of pasture without riparian buffer			
		□ ।		≥ 20% coverage of pasture with effective riparian buffer			
	□k □l	□k □J	□ĸ □ì	≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer			
	□L			≥ 20% coverage of maintained grass/herb Silvicultural land with disturbance < 5 years old			
	□M □N	□M □N	□N	Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area			
7.				ated Buffer – assessment area condition metric			
		⊠Yes	ΠNo	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric			
	Stream	☐Yes ☐No If No, Skip to next metric Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine widths of channels/braids for a total stream width					
		∏≤ 15-1	feet wide	⊠> 15-feet wide			
	Do roots	s of asses		ea vegetation extend into the bank of the adjacent stream/open water?			
	ls strea	m or other	open wa	atter sheltered or exposed?			
		□Expo	sed – adj	ljacent open water with width < 2500 feet <u>and</u> no regular boat traffic acent open water with width ≥ 2500 feet <u>or</u> regular boat traffic			
8.				Width – assessment area/wetland type/wetland complex metric			
	(WC), a only be anaston	and the rip present on nosed sys	arian but on one s stem. Ma	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex ffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need ide of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been			
	remove WT	d or distui WC		applicable)			
	⊠A	⊠A	⊠AÌ	≥ 100 feet From 80 to < 100 feet			
	□B □C	□B □C	□B □C	From 50 to < 80 feet			
	□D			From 40 to < 50 feet From 30 to < 40 feet			
	□E □F	□E □F	□F	From 15 to < 30 feet			
	□G □H	□G □H	□G □H	From 5 to < 15 feet < 5 feet			
	₩.,						

9.	inundation Duration – assessment area condition metric				
	Answer for assessment area dominant landform. A Evidence of short-duration inundation (< 7 consecutive days) B Evidence of saturation, without evidence of inundation C Evidence of long-duration inundation (7 to 30 consecutive days or more)				
10.	Indicators of Deposition – assessment area condition metric				
•	onsider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland				
11.	Wetland Size – wetland type/wetland complex condition metric				
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT WC FW (if applicable) A				
12.	Wetland intactness – wetland type condition metric (evaluate for Pocosins only)				
	 □A Wetland type is the full extent (≥ 90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size 				
13.	Connectivity to Other Natural Areas – landscape condition metric				
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type—Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch WC LC MA				
	Check Yes or No.				
	 ☐Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐Yes ☐No Is the assessment area subject to overbank flooding during normal conditions? 				
14	Edge Effect – wetland type condition metric				
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut				
15	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)				
	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedly native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.				
14	the Diversity - resessment area condition metric (evaluate for Non-tidal Freshwater marsh only)				
n"	Line of the state of the sta				
	□ A Vegetation diversity is high and is confidence of exotics □ C Vegetation is dominated by exotic species.				

17.	Vegetative Structure – assessment area/wetland type condition metric				
∀egetation present					
	Evaluate percent coverage of vegetation for marshes only ☐A ≥ 25% coverage of vegetation				
	Fig. 4 050/ assesses of variation				
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider				
	structure in airspace above the assessment area (AA) and the wetland type (WT) separately.				
	AA WT ⊠A ⊠A Canopy closed, or nearly closed, with natural gaps associated with natural processes				
	☐B ☐B Canopy present, but opened more than natural gaps				
	C Canopy sparse or absent				
	□A □A Dense mid-story/sapling layer				
	☑B ☑B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent				
	- -				
	☐B ☐B Moderate density shrub layer				
	☑C ☑C Shrub layer sparse or absent				
	□A □A Dense herb layer				
	☑B ☑B Moderate density herb layer ☐C ☐C Herb layer sparse or absent				
	☐C ☐C Herb layer sparse or absent ☐ Vegetation absent				
40	Snags – wetland type condition metric				
10.	□ Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability)				
	□B Not A				
19.	Diameter Class Distribution – wetland type condition metric				
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are				
	present ☑B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH				
	Most canopy trees have stems between 6- and 12-inches DBH, new are > 12-inch DBH Most canopy trees are < 6-inches DBH or no trees.				
20	Large Woody Debris – wetland type condition metric				
20.	La battara and and natural debris piles				
	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability)				
	B Not A				
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season Patterned				
	areas indicate vegetated areas, while solid white areas indicate open water.				
	a to the smooth				
22.	Habitat Uniqueness – wetland type condition metric Yes ⊠No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"				
	Yes No Has the N.C. Environmental Management Commission classified the assessment area as Children Wetlands (CVC):				
No	tes				

Wetland Site Name	Z6-II-WAM10	Date of Assessment	9-7-07 EcoScience Cusack/Allen	
Wetland Type		ssessor Name/Organization		
	ressor affecting assessment area (Y/N)	YES NO		
	Assessment Form (Y/N)	NO NO		
	guiatory considerations (Y/N)	NO NO		
	ensively managed (Y/N)			
Wetland may b	be a high-quality riverine wetland (Y/N)			
Sub-function Ratin	g Summary			
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition		HIGH
	Sub-surface Storage and Retent	tion Condition		
Water Quality	Pathogen Change	Condition		HIGH
-		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Particulate Change	Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Soluble Change	Condition		HIGH
		Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Physical Change	Condition		HIGH
	, nys.ca. s.nang-	Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Pollution Change	Condition		X
	, ondion onling	Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
Habitat	Physical Structure	Condition		MEDIUM
Habitat	Landscape Patch Structure	Condition		HIGH
	Vegetation Composition	Condition		HIGH
	Uniqueness	Condition		NO
Function Rating S	ummary	Metrics		Rating
Function		Condition		HIGH
Hydrology		Condition		HIGH
Water Quality		Condition/Opportunity		HIGH
		Opportunity Presence		YES
		• •		HIGH
Habitat		Condition		

	Wetland Site Na	me Z6-II-WAM12	Data	0.7.07
	Wetland Ty	/pe Seep	Date Assessor Name/Organization	9-7-07 EcoScience Cusack/Allen
	Level III Ecoreg	on Southeastern Plains	Nearest Named Water Body	Bones Creek
	River Ba		USGS 8-Digit Catalogue Unit	03030004
	☐ Yes 🛛	No Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35 022510 -79 037557
	(for instance, within Hydrologic	r make note below if evidence of stres 10 years). Noteworthy stressors inclu al modifications (examples ditches, o	lams heaver dams dikes horms nands o	reference, if appropriate, in recent past
	Signs of v. Habitat/pla	voi anacidicana sicilade fanks impresi	n mortality, insect damage, disease, storm on one of the country o	= -
			es 🔯 No	
:	Describe effects of	stressors that are present		
- 1	Regulatory Consid	erations		
1	Select all that apply	to the assessment area		
- [☐ Anadromo		and the sales of a	
	NCDWQ ri	rotected species or State endangered parian buffer rule in effect	or inreatened species	
-	☐ Wetland a	Jacent to or associated stream drains	to a Primary Nursery Area	
-	Publicly ov	ned property	·	
	I N C. DIVISI	on of Coastal Management Area of En on of Water Quality best usage classifi I NCNHP reference community	vironmental Concern (AEC) (including buffe cation of SA or supplemental classifications	er) of HQW, ORW, or Trout
-	What type of natura	ll stream is associated with the weth	and, if any? (Check all that apply)	
1			, and apply,	
	☐ Brownwate ☐ Tidal (if tida	1.	D. D.	
1			Lunar Wind Both	ł
	is the assessment a	rea on a coastal island?	⊠ No	
			y or duration substantially altered by bea	aver? Yes No
7	Check a box in on the assessment a	Condition/Vegetation Condition – as each column. Consider alteration to rea. Compare to reference wetland if based on evidence of alteration	ssessment area condition metric the ground surface (GS) in the assessmer f applicable (see User Manual v1.0) If a re	nt area and vegetation structure (VS) in eference is not applicable, then rate the
	⊠A ⊠A	Not severely altered		
	□в □в	secumentagon, life-plow lanes, skigo	sessment area (ground surface alteration ex der tracks, bedding, fill, soil compaction, ol sturbance, herbicides, salt intrusion (where hydrologic alteration)	hvious pollutante) (vagatation atmeture
2.	Surface and Sub	Surface Storage Capacity and Dura	tion – assessment area condition metric	
	Check a box in (Sub) Consider to G) for North Carol water only, while applicable	each column. Consider surface stored increase and decrease in hydrologina hydric soils for the zone of influenting the control of	rage capacity and duration (Surf) and sub- gy Refer to the NRCS Scope and Effect (ce of ditches in hydric soils A ditch ≤ 1 fo o affect both surface and sub-surface wal	surface storage capacity and duration Guide (see User Manual v1.0 Appendix
	Surf Sub	change) (examples: intensive ditchindrams, stream incision, sewer lines, se	e altered, but not substantially (typically, not e substantially altered (typically, alteration s g, fill, sedimentation, channelization, diversi pil compaction)	Ufficient to result in vegetation
3.	. Water Storage/S	ırface Relief – assessment area/wet	land type condition metric	Allowed Assess (AACT)
-	Check a box in e	ach column Select the appropriate s	torage for the assessment area (AA) and th	e wetland type (VVI).
	AA <u>W</u> T			
		> 50% of the wetland type with depre	assions able to bond water I to 2 leet	
	□B □B □C □C	> 50% of wotland type with depression	ons able to pond water 6 inches to 1 look	
		> 50% of wetland type with depression	ous aple to boug mater 3- to g-inches deep	
		Depressions able to pond water < 3-	inches deep	

	Select a	I that a	p ply. Di	g soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ttee for Hydric Soils regional indicators are noted (use most recent guidance)			
	□A	Sandy s		use for Flydric Constregional indicators are noted (ascernoscia guidance)			
	Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)						
	⊠c □D			naracterized by other, mineral soil (no mottling)			
	□D Gleyed mineral soil (F2, S4) ☑E Soil ribbon < 1 inch						
	☐F Soil ribbon ≥ 1 inch						
	□G						
	⊠H □I			resence (A6, A7, A8, A9, A10, F1, S1) I (histosol or histic epipedon) (A1, A2, A3)			
_							
5.		_		- opportunity metric olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub)			
	Example	a box iii es of sub-	surface d	lischarges include presence of nearby septic tank, underground storage tank (UST), etc			
	Surf	Sub					
	⊠A	ΜA		no evidence of pollutants or discharges entering the assessment area			
	□в	□В		able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ent capacity of the assessment area			
	□с	□c		able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and			
	_		potentia	ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive			
			sedime	ntation)			
6.	Land Us	se – oppo	ortunity r	netric			
	Check a	all that ar	ply. Eva	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area			
				ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles			
				draining to the assessment area (2M) Effective riparian buffers are considered to be 50 feet wide in the Coastal Office twide in the Mountains			
	ws	5M	2M				
	□A	□A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples			
	□в	□в	□в	industrial, commercial, and high-density residential) > 30% impervious surfaces without stormwater BMPs			
	ďċ	∐c	⊟c	10 to 30% impervious surfaces			
	□D	□D	□D	< 10% impervious surfaces			
	튜	ᄩ	먇	Old urban development (pink areas on USGS 7 5-minute quadrangles)			
	□F □G	□F □G	□F □G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)			
	□н	Π̈́Η	⊟́й	≥ 20% coverage of pasture without πparian buffer			
				≥ 20% coverage of pasture with effective ripanan buffer			
	밤		□k □ì	≥ 20% coverage of agricultural land (regularly plowed land) without πparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective πpanan buffer			
	□k	□k □L	뚮	≥ 20% coverage of maintained grass/herb			
	⊠M	\boxtimes M	\boxtimes M	Silvicultural land with disturbance < 5 years old			
	□N	□N	□N	Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or			
				overbank flow from affecting the assessment area			
7.		•	-	ated Buffer – assessment area condition metric			
	is the as		t area wit ⊠No	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric			
	Stream	width (St	ream wid	ith is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine			
		f channel	s/braids f	for a total stream width			
	Do roote		feet wide	☐> 15-feet wide ☐Not Applicable ea vegetation extend into the bank of the adjacent stream/open water?			
	DO TOOLS		□No	ea vegatation extend into the bank of the adjacent stream topen water.			
	ls strear	n or other	open wa	ater sheltered or exposed?			
				ljacent open water with width < 2500 feet <u>and</u> no regular boat traffic			
		•	•	acent open water with width ≥ 2500 feet <u>or</u> regular boat traffic			
8.		•		Width – assessment area/wetland type/wetland complex metric			
				lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex fer at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need			
	only be	present (on one s	ide of the water body. The riparian buffer is measured from the outside banks of the outer channels of an			
	anastor	losed sys	tem Ma	ake buffer judgment based on dominant landscape feature Record a note if a portion of the buffer has been			
		d or distur					
	WT	MC	`	applicable)			
			₽å.	≥ 100 feet From 80 to < 100 feet			
	□B □C	□B □C	□B □C	From 50 to < 80 feet			
	lŏ	li i	⊟ŏ	From 40 to < 50 feet			
	□E	□E	<u>D</u> E	From 30 to < 40 feet			
	□ F	<u>□</u> F	□F MG	From 15 to < 30 feet From 5 to < 15 feet			
	⊠G ∐H	⊠G □H	⊠G □H	< 5 feet			
	ш , ,	ш,,					

4. Soil Texture/Structure – assessment area condition metric

,	9.	Ínundation Duration – assessment area condition metric
		Answer for assessment area dominant landform A
	10.	Indicators of Deposition – assessment area condition metric
		Consider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland
	11.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual) Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A MA A So0 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F F F From 5 to < 10 acres G G G From 10 to < 25 acres H H H From 0 5 to < 1 acre II From 0 1 to < 0 5 acre J D J J From 0.01 to < 0 1 acre K MK MK MK K O 0 11 acre
	12	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
		□ A Wetland type is the full extent (≥ 90%) of its natural landscape size □ B Wetland type is < 90% of the full extent of its natural landscape size.
	13.	Connectivity to Other Natural Areas – landscape condition metric
	•	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch WC LC MA
		Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Yes No Is the assessment area subject to overbank flooding during normal conditions?
		Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions. □ B No artificial edge within 150 feet in four to seven directions. □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	40	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	10.	□A Vegetation diversity is high and is composed primarily of native species. □B Vegetation diversity is low or has > 10% cover of exotics. □C Vegetation is dominated by exotic species.

Vegetative Structure – assessment area/wetland type condition metric
✓ Vegetative Structure – assessment discussed and symptotic structure –
Evaluate percent coverage of vegetation for marshes only
∏A ≥ 25% coverage of vegetation
☐B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
check a box in each column for each stratum. Evaluate this portion of the matter to the matter to the structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
A A VAIT
□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes
□B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
TiB TIB Moderate density mid-story/sapling layer
☑C ☑C Mid-story/sapling layer sparse or absent
□A □A Dense shrub layer
□B □B Moderate density shrub layer ☑C ☑C Shrub layer sparse or absent
-
⊠A □A Dense herb layer □B □B Moderate density herb layer □B □B Moderate density herb layer □B □B Moderate density herb layer □B □B Moderate density herb layer □B □B Moderate density herb layer □B □B □B Moderate density herb layer □B □B □B Moderate density herb layer □B □B □B Moderate density herb layer □B □B □B Moderate density herb layer □B □B □B Moderate density herb layer □B □B □B Moderate density herb layer □B □B □B Moderate density herb layer □B □B □B □B Moderate density herb layer □B □B □B □B Moderate density herb layer □B □B □B □B Moderate density herb layer □B □B □B □B Moderate density herb layer □B □B □B □B Moderate density herb layer □B □B □B □B □B □B □B □B □B □B □B □B □B □
☐C ☐C Herb layer sparse or absent
☐ Vegetation absent
Snags – wetland type condition metric
A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).
⊠B Not A
Diameter Class Distribution wetland type condition metric Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
present
□B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH
). Large Woody Debris – wetland type condition metric
include both man-made and natural debris piles
include both man-made and natural debits piles ☐A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). ☑B Not A
1. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Pattern
areas indicate vegetated areas, while solid white areas indicate open water
2. Habitat Uniqueness – wetland type condition metric
Yes ⊠No Has the N.C Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
lotes

Wetland Site Name	Z6-II-WAM12	Date of Assessment	9-7-07
Wetland Type	Seep	Assessor Name/Organization	EcoScience Cusack/Allen
	ressor affecting assessment area (Y/N) Assessment Form (Y/N)	NO NO	
	gulatory considerations (Y/N)	NO	
Wetland is inte	nsively managed (Y/N)	NO	
Wetland may b	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	a Summary		
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	n Condition	X
	Sub-surface Storage and Rete	ntion Condition	X
Water Quality	Pathogen Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
	Particulate Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
	Soluble Change	Condition	Х
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
	Physical Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
Habitat	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	MEDIUM
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
Function Rating Su	mmary		
Function		Metrics	Rating
Hydrology		Condition	HIGH
Water Quality		Condition	HIGH
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
Habitat		Condition	HIGH
Overall Wetland	Rating HIGH	•	

	Wetland Site Na		Date	9-7-07			
	Wetland T		Assessor Name/Organization	EcoScience Cusack/Allen			
_	Level III Ecoreg		Nearest Named Water Body	Bones Creek			
~	River Ba	<u></u>	USGS 8-Digit Catalogue Unit	03030004			
	☐ Yes 🛛	No Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.024241, -79.036853			
	Evidence of stree	eare offerting the consequent					
	Places orale and/	sors affecting the assessment area	(may not be within the assessment area)				
(for instance, within 10 years) Noteworthy stressors include but are not invited to the following.							
	• Surface of	cal modifications (examples ditches,	dams, beaver dams, dikes, berms, ponds, e	etc)			
	Oditaco a	and sub-surface discharges into the t	Welland (examples discharges containing	obvious pollutants, presence of nearby			
	• Hahitat/nl	egetation stress (examples: vegetation	on mortality, insect damage, disease, storm o	damage, salt intrusion, etc)			
	Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, salt intrusion stress (examples: vegetation mortality) Signs (examples: vegetation mortality) Signs (examples: vegetation mortality) Signs (examples: vegetation mo						
	Is the assessment area intensively managed?						
	Describe ellects O	i stressors that are present					
	Regulatory Consid	derations					
	Select all that apply	to the assessment area					
ļ	L.J Anadromo	ous fish					
- 1	Federally NCDWQ r	protected species or State endangered ipanan buffer rule in effect	d or threatened species				
	☐ Wetland a	djacent to or associated stream drains	to a Primary Nursery Area				
	Publicly ov	wnea property	•				
	N.C Divisi	on of Coastal Management Area of Er	nvironmental Concern (AEC) (including buffe	er)			
-	☐ 14.0 DIAISI	ion of water Quality best usage classif d NCNHP reference community	fication of SA or supplemental classifications	of HQW, ORW, or Trout			
		al stream is associated with the wet	aland 16 and 2 (Obsert 1941				
- 1		an equality is associated Mifli tue Mét	nand, if any? (Check all that apply)				
	☐ Brownwate						
		al, check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both				
1		•		j			
- 1		area on a coastal island? Yes					
			ty or duration substantially altered by be	aver? Yes No			
7.	Ground Surface	Condition/Vegetation Condition - a	ssessment area condition metric				
	Check a box in	each column. Consider alteration to	the ground surface (CC) in the	of area and vegetation etructure (VC)			
			if applicable (see User Manual v1 0) If a re	eference is not applicable, then rate the			
		based on evidence of alteration		the trace applicable, then rate the			
	GS VS ⊠A ⊠A	Not covered alternat					
		Not severely altered					
		sedimentation fire plant lange stid	sessment area (ground surface alteration ex	amples: vehicle tracks, excessive			
		Seguinoritation, in a picta laties, skilli	UEI LIBUKS. DECIDING TIII SON compaction of	historia politikantal (
		less diversity [if appropriate], artificia	SUIDANCE NEMICIOSE SON INTRIBION GUBOR	e appropriate], exotic species, grazing,			
2	Surface and Quit	to appropriately artificial	i riyarologic alleration)				
4.	Chack a hav !-	coch column Could	ation – assessment area condition metric				
	(Sub) Consider	ooth paragon and descriptions are	rage capacity and duration (Surf) and sub-	surface storage capacity and duration			
	water only while	a ditch > 1 feet door to ever the let	nce of ditches in hydric soils. A ditch ≤ 1 fo	ot deep is considered to affect surface			
	applicable.	a ditcri > 1 loot deep is expected t	to affect both surface and sub-surface wat	ter Consider tidal flooding regime, if			
	Surf Sub			·			
	⊠a ⊠a	Water storage capacity and duration	are not altered				
	□B □B	Water storage capacity or duration ar	e altered, but not substantially (but all,	sufficient to show a second			
	□c □c	and the second of adiaboli di	C SUDSIGNIBILITY MILETER LIVERCALLY SITAFATION 6	ufficiont to manula un constatue :			
		one igo, (oxampics: intensive ditchin	ıy, iii, sediklenlation, channelization, diversi	ometerit to result in vegetation			
		dams, stream incision, sewer lines, s	oil compaction)	,on made beims, bedyel			
3.	Water Storage/St	urface Relief – assessment area/wet	land type condition metric				
			torage for the assessment area (AA) and the	e wetland type (WT)			
	AA WT	2011 Dollor the appropriate a	norage for the assessment area (AA) and the	o woulding type (** i).			
•	à ÖA	> 50% of the wetland type with depre	essions able to pond water > 2 feet				
	⊠B ⊠B	> 50% of the wetland type with depre					
			ons able to pond water 6 inches to 1 foot				
			ons able to pond water 3- to 6-inches deep				
		Depressions able to pond water < 3-i					
		· · · · · · · · · · · · · · · · · · ·	•				

-44	0011 102			230030mont and containon metalo	
	Select a National	all that ap I Technica Sandy s	al Commi	g soil profile in the dominant assessment area landscape feature Make soil observations within the top foot ttee for Hydric Soils regional indicators are noted (use most recent guidance)	
		Predom Predom Gleyed	inantly ch inantly ch	naracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) naracterized by other, mineral soil (no mottling) soil (F2, S4)	
	□F		on≥1in		
	□G			presence	
	⊠H			resence (A6, A7, A8, A9, A10, F1, S1) I (histosol or histic epipedon) (A1, A2, A3)	
5.	_			- opportunity metric	
٥.		-		olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub)	
	Example Surf	es of sub-	surface d	lischarges include presence of nearby septic tank, underground storage tank (UST), etc	
	⊠A ⊟B	⊠A □B	Noticea	no evidence of pollutants or discharges entering the assessment area ible evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the	
	□c	□c	Noticea	ent capacity of the assessment area ible evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive ntation)	
6.	Land Us	se – oppo		•	
	Check a within end	ill that ap ntire upstr in the wat	ply. Eva eam wate ershed d	aduation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles Iraining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal I feet wide in the Mountains.	
	□A	□A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential)	
	□B □C	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs	
	⊠D	⊠D	⊠D	10 to 30% impervious surfaces < 10% impervious surfaces	
	ΠE	□E	□E	Old urban development (pink areas on USGS 7 5-minute quadrangles)	
	□F □G	□F □G	□F □G	New adjacent development	_
	H	H	H	Confined animal operations (or other local, concentrated source of pollutants) ≥ 20% coverage of pasture without riparian buffer	
				≥ 20% coverage of pasture with effective riparian buffer	
	□k □¹	□k □i	다	≥ 20% coverage of agricultural land (regularly plowed land) without ripanan buffer	
	E.	:	□r □k	≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥ 20% coverage of maintained grass/herb	
	⊠M	\boxtimes M	⊠M	Silvicultural land with disturbance < 5 years old	
	□N	□и	□N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.	
7.				nted Buffer – assessment area condition metric	
		⊠Yes	∐No	hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric th is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine	
	widths of	channels	/braids fo	or a total stream width	
	Do roots		ment are	☐> 15-feet wide ☐Not Applicable ea vegetation extend into the bank of the adjacent stream/open water?	
	Is stream			er sheltered or exposed?	
		Shelte	red – adj	acent open water with width < 2500 feet <u>and</u> no regular boat traffic icent open water with width ≥ 2500 feet <u>or</u> regular boat traffic	
8.				Vidth – assessment area/wetland type/wetland complex metric	
	only be p	d the ripa present of psed system	irian butt n one sid em Mal	umn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex er at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need de of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ke buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been	
		WC		pplicable)	
	□A	⊠A	□a`	≥ 100 feet	
		B	⊠B	From 80 to < 100 feet	
		□C □D		From 50 to < 80 feet From 40 to < 50 feet	
	□E	□E	□E	From 30 to < 40 feet	
	□F	□F	□F	From 15 to < 30 feet	
	□G □H	□G □H	□G □H	From 5 to < 15 feet < 5 feet	
	□ □		<u> </u>		

9.	mundation Duration - assessment area condition metric
	Answer for assessment area dominant landform. Answer for assessment area dominant landform. Because of short-duration inundation (< 7 consecutive days) Because of saturation, without evidence of inundation Because of long-duration inundation (7 to 30 consecutive days or more)
10	Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland
44	
11	Wetland Size – wetland type/wetland complex condition metric Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT if assessment area is clear-cut, select "K" for FW column WT WC FW (if applicable) A A A ≥ 500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D D From 25 to < 50 acres E E E From 10 to < 25 acres G G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre J J J J From 0 1 to < 0.5 acre J J J From 0 0 to < 0.1 acre J J J From 0 0 to < 0.1 acre J J J J From 0 0 to < 0.1 acre Manual Control of the wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous, forested wetland (FW) (if applicable) and the size of the contiguous forested wetland (FW) (if applicable) and the size of the contiguous forested wetland (FW) (if applicable) and the size of the contiguous forested wetland (
	□К □К < 0.01 acre
12.	. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
	 □A Wetland type is the full extent (≥ 90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size
13.	Connectivity to Other Natural Areas – landscape condition metric
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A A ≥ 500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 10 to < 50 acres E < 10 acres Wetland type has a poor or no connection to other natural habitats
	Check Yes or No.
	Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) No Is the assessment area subject to overbank flooding during normal conditions?
14.	Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	TA Vegetation diversity is high and is composed primarily of native species.
	B Vegetation diversity is low or has > 10% cover of exotics
	C Vegetation is dominated by exotic species

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17.	Vegetati	ve Structure – assessment area/wetland type condition metric
		etation present
		luate percent coverage of vegetation for marshes only
	∐A ⊟B	
		ck a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
		cture in airspace above the assessment area (AA) and the wetland type (WT) separately.
	AA.	WT
	⊠A ∐8	
	⊟ŏ	
	□A	□A Dense mid-story/sapling layer
	⊠B	Moderate density mid-story/sapling layer
	DA	
	⊠B □C	
	⊠A	
	⊟B	B Moderate density herb layer
	_ 00	
	_ •	etation absent
18.	_	wetland type condition metric
	∏A ⊠B	Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A
19.		r Class Distribution – wetland type condition metric
	□A	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
	□в	present Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH
	⊠c	Most canopy trees are < 6-inches DBH or no trees
20.	Large W	oody Debris – wetland type condition metric
	Include b	ooth man-made and natural debris piles.
	∏A ⊠B	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability) Not A
21.	Vegetati	on/Open Water Dispersion wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select th	e figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
	areas inc	licate vegetated areas, while solid white areas indicate open water □A □B □C □D
	Cy	
	All I	
22.	Habitat l	Jniqueness – wetland type condition metric
□Y	es ⊠N	o Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
	_	
Note	26	
	tos 9915-	9917

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Wetland Site Name	Z6-II-WAM13	Date of Assessment	9-7-07	
Wetland Type	Headwater Wetland	Assessor Name/Organization	EcoScience Cusack/Allen	
	essor affecting assessment area (Y/N) Assessment Form (Y/N)	NO YES		
	gulatory considerations (Y/N)	NO NO		
	nsively managed (Y/N)	NO		
	e a high-quality riverine wetland (Y/N)			
Sub-function Rating				
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	HIGH	
	Sub-surface Storage and Retent	ion Condition	HIGH	
Water Quality	Pathogen Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) NO	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/N) NO	
	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/N) NO	
	Pollution Change	Condition	X	
		Condition/Opportunity	x	
·		Opportunity Presence (Y/N) X	
Habitat	Physical Structure	Condition	HIGH	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
Function Rating Sum	mary			
Function		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/N) YES	
Habitat		Condition	HIGH	